MVP Southgate Project

Docket No. CP19-14-000

Post-Application
Environmental Information Request #5

Attachments

November 2019

MVP Southgate Project

Docket No. CP19-14-000

Attachment 6-1

Correspondence - Carolina Ladle Crayfish

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Virginia SHPO Correspondence

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Revised Addendum 1 of the Virginia Archaeological Survey Report

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Attachment 10-1

Cultural Resources Survey Progress as of November 10, 2019

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Attachment 10-1. Cultural Resources Survey Progress as of November 10, 2019.

Facility County, State	Project Miles				Project Acres			
	Surveyed Miles	Not Surveyed Miles	Project Total Miles	Miles Percentage Surveyed	Surveyed Acres	Not Surveyed Acres	Project Total Acres	Acres Percentage Surveyed
H-605 Pipeline Right-of-Way	**0.47**	**0.00**	**0.47**	**100.0%**	**7.86**	**0.00**	**7.86**	**100.0%**
Pittsylvania, VA	0.47	0.00	0.47	100.0%	7.86	0.00	7.86	100.0%
H-650 Pipeline Right-of-Way	**70.06**	**4.57**	**74.63**	**93.9%**	**1081.70**	**74.97**	**1156.67**	**93.5%**
Pittsylvania, VA	26.27	0.14	26.41	99.5%	395.09	4.89	399.97	98.8%
Rockingham, NC	25.56	1.17	26.73	95.6%	398.02	19.78	417.79	95.3%
Alamance, NC	18.23	3.26	21.49	84.8%	288.60	50.30	338.90	85.2%
Temporary and Permanent Access Roads	**29.89**	**2.42**	**32.31**	**92.5%**	**91.60**	**7.92**	**99.52**	**92.0%**
Pittsylvania, VA	11.54	0.75	12.29	93.9%	35.17	2.54	37.71	93.3%
Rockingham, NC	12.55	0.29	12.84	97.7%	38.49	1.04	39.53	97.4%
Alamance, NC	5.80	0.98	6.78	85.5%	17.94	3.04	20.98	85.5%
Caswell, NC	0.00	0.40	0.40	0.0%	0.00	1.29	1.29	0.0%
Cathodic Protection Groundbeds					**1.14**	**0.62**	**1.75**	**64.8%**
Pittsylvania, VA					0.53	0.62	1.15	46.2%
Rockingham, NC					0.02	0.00	0.02	100.0%
Alamance, NC					0.59	0.00	0.59	100.0%
Aboveground Facilities					**30.29**	**0.01**	**30.30**	**100.0%**
Pittsylvania, VA					19.13	0.01	19.14	99.9%
Lambert Compressor Station & Interconnect / MLV 1					*19.09*	*0.01*	*19.10*	*99.9%*
MLV 2					*0.02*	*0.00*	*0.02*	*100.0%*
MLV 3					*0.02*	*0.00*	*0.02*	*100.0%*
Rockingham, NC					9.78	0.00	9.78	100.0%
LN 3600 Interconnect					*4.58*	*0.00*	*4.58*	*100.0%*
T-15 Dan River Interconnect / MLV 4					*5.17*	*0.00*	*5.17*	*100.0%*
MLV 5					*0.02*	*0.00*	*0.02*	*100.0%*
Alamance, NC					1.39	0.00	1.39	100.0%
MLV 6					*0.02*	*0.00*	*0.02*	*100.0%*
MLV 7					*0.02*	*0.00*	*0.02*	*100.0%*
T-21 Haw River Interconnect / MLV 8					*1.35*	*0.00*	*1.35*	*100.0%*
Contractor Yards					**119.18**	**55.63**	**174.81**	**68.2%**
Pittsylvania, VA					67.24	30.86	98.10	68.5%
Rockingham, NC					29.76	0.01	29.77	100.0%
Alamance, NC					22.08	0.00	22.08	100.0%
Caswell, NC					0.09	24.76	24.85	0.4%
Project Total	**100.42**	**6.99**	**107.41**	**93.5%**	**1331.77**	**139.15**	**1470.92**	**90.5%**

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Attachment 11-1

Updated Resource Report 4 Tables

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Attachment 15-1

Avoidance Plan for 31RK222

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Attachment 16-1

Avoidance Plan for 31RK44

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Attachment 17-1

Revised Historic Architectural Survey Report for North Carolina

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Attachment 18-1

Virginia and North Carolina SHPO Reviews

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Attachment 19-1

Revised Table 6.2-2 and Appendix 6-B

November 2019

LIST OF TABLES

REVISED [Nov 2019] - Table 6.2-2 Surficial Materials in the MVP Southgate Project Area			
Project Facilities	**From Milepost**	**To Milepost**	**Surficial Geology Material**
Pipeline Facilities			
H-605	0.00	0.28	Residual materials developed in sedimentary rocks, discontinuous
	0.28	0.47	Residual materials developed in bedrock, discontinuous
H-650	0.00	0.37	Residual materials developed in bedrock, discontinuous
	0.37	1.22	Residual materials developed in sedimentary rocks, discontinuous
	1.22	2.05	Residual materials developed in sedimentary rocks, discontinuous
	2.05	15.18	Residual materials developed in igneous and metamorphic rocks
	15.18	30.82	Residual materials developed in bedrock, discontinuous
	30.82	73.17	Residual materials developed in igneous and metamorphic rocks
Aboveground Facilities	**Area (acres)**	**Near Milepost**	---
Lambert Compressor Station / Interconnect / MLV 1	8.6	0	Residual materials developed in bedrock, discontinuous
MLV 2	<0.1	7.4	Residual materials developed in igneous and metamorphic rocks
MLV 3	<0.1	18.3	Residual materials developed in bedrock, discontinuous
LN 3600 Interconnect	0.9	28.2	Residual materials developed in bedrock, discontinuous
T-15 Dan River Interconnect / MLV4	0.8	30.4	Residual materials developed in bedrock, discontinuous
MLV 5	<0.1	42.2	Residual materials developed in igneous and metamorphic rocks
MLV 6	<0.1	55.1	Residual materials developed in igneous and metamorphic rocks
MLV 7	<0.1	68.7	Residual materials developed in igneous and metamorphic rocks
T-21 Haw River Interconnect / MLV 8	0.6	73.2RR	Residual materials developed in igneous and metamorphic rocks

REVISED [Nov 2019] - Table 6-B-1 Bedrock Geology in the MVP Southgate Project Area							
Project Facilities	**From Milepost**	**To Milepost**	**Crossing Length (Miles)**	**Formation**	**Primary Rock**	**Secondary Rock**	**Map Symbol**
Pipeline Facilities							
H-605	0.00	0.07	0.07	Upper Triassic	sandstone	siltstone	TRss
	0.07	0.19	0.12	Upper Triassic	conglomerate		TRc
	0.19	0.47	0.28	Upper Triassic	sandstone	siltstone	TRss
H-650	0 RR	0.39	0.41	Upper Triassic	sandstone	siltstone	TRss
	0.39	0.95	0.56	Upper Triassic	conglomerate		TRc
	0.95	1.2	0.25	Proterozoic Z-Cambrian	mica schist	gneiss	Zfm
	1.20	1.86	0.68	Cambrian	granite		lw
	1.86	14.95	13.17	Proterozoic Z-Cambrian	mica schist	gneiss	Zfm
	14.95	16.19	1.24	Upper Triassic	conglomerate		TRc
	16.19	17.13	0.94	Upper Triassic	sandstone		TRs
	17.13	18.03	0.97	Upper Triassic	sandstone	siltstone	TRss
	18.03	18.7	0.67	Upper Triassic	conglomerate		TRc
	18.70	20.62	1.92	Proterozoic Z	biotite gneiss	amphibolite	Zau
	20.62	21.07	0.45	Proterozoic Z-Cambrian	mica schist	amphibolite	Zab
	21.07	22.35	1.28	Proterozoic - Paleozoic ?	mylonite	gneiss	my
	22.35	22.46RR	0.11	Upper Triassic	sandstone	siltstone	TRss
	22.46 RR	22.46RR	0.00	Proterozoic - Paleozoic ?	mylonite	gneiss	my
	22.46 RR	24.57	2.22	Upper Triassic	sandstone	siltstone	TRss
	24.57	26.11	1.54	Triassic	sandstone	siltstone	TRcs
	26.11	28.99	2.89	Triassic	sandstone	mudstone	TRdp
	28.99	29.35RR	0.36	Triassic	mudstone	sandstone	TRdc
	29.35 RR	31.11	1.78	Triassic	sandstone	mudstone	TRdp
	31.11	32.65	1.54	Cambrian/Late Proterozoic	biotite gneiss	mica schist	CZbg

REVISED [Nov 2019] - Table 6-B-1

Bedrock Geology in the MVP Southgate Project Area

Project Facilities	From Milepost	To Milepost	Crossing Length (Miles)	Formation	Primary Rock	Secondary Rock	Map Symbol
	32.65	32.95	0.30	Cambrian/Late Proterozoic	felsic gneiss	mafic gneiss	CZfg
	32.95	34.12	1.17	Cambrian/Late Proterozoic	biotite gneiss	mica schist	CZbg
	34.12	34.93	0.82	Cambrian/Late Proterozoic	felsic gneiss	mafic gneiss	CZfg
	34.93	39.31	4.39	Cambrian/Late Proterozoic	biotite gneiss	mica schist	CZbg
	39.31	41.28	2.02	Cambrian/Late Proterozoic	felsic gneiss	mafic gneiss	CZfg
	41.28	46.1RR	4.82	Cambrian/Late Proterozoic	biotite gneiss	mica schist	CZbg
	46.1 RR	47.56	1.45	Permian/Pennsylvanian	granite		PPg
	47.56	48.35	0.80	Cambrian/Late Proterozoic	biotite gneiss	mica schist	CZbg
	48.35	49.29	0.94	Permian/Pennsylvanian	granite		PPg
	49.29	50.57RR	1.28	Cambrian/Late Proterozoic	mafic metavolcanic rock	felsic metavolcanic rock	CZmv
	50.57 RR	50.63RR	0.05	Cambrian/Late Proterozoic	phyllite	schist	CZph
	50.63 RR	54.77	4.24	Cambrian/Late Proterozoic	mafic metavolcanic rock	felsic metavolcanic rock	CZmv
	54.77	55.37RR	0.60	Cambrian/Late Proterozoic	felsic metavolcanic rock	mafic metavolcanic rock	CZfv
	55.37 RR	58.32	3.23	Cambrian/Late Proterozoic	metamorphic rock		CZg
	58.32	59.2RR	0.93	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	59.2 RR	59.4RR	0.20	Cambrian/Late Proterozoic	metamorphic rock		CZg
	59.4 RR	59.63	0.21	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	59.63	60.55	0.92	Cambrian/Late Proterozoic	metamorphic rock		CZg
	60.55	61.32	0.80	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	61.32	61.54	0.22	Cambrian/Late Proterozoic	metamorphic rock		CZg
	61.54	61.59	0.05	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	61.59	61.86	0.27	Cambrian/Late Proterozoic	metamorphic rock		CZg

REVISED [Nov 2019] - Table 6-B-1

Bedrock Geology in the MVP Southgate Project Area

Project Facilities	From Milepost	To Milepost	Crossing Length (Miles)	Formation	Primary Rock	Secondary Rock	Map Symbol
	61.86	62.26RR	0.40	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	62.26 RR	63.28RR	1.11	Cambrian/Late Proterozoic	metamorphic rock		CZg
	63.28 RR	64.52	1.41	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	64.52	69.4	5.12	Cambrian/Late Proterozoic	metamorphic rock		CZg
	69.40	72.89RR	3.59	Cambrian/Late Proterozoic	mafic metavolcanic rock	felsic metavolcanic rock	CZmv
	72.89 RR	73.16RR	0.29	Paleozoic/Late Proterozoic	metamorphic rock		PzZg
	73.16 RR	73.17RR	0.01	Cambrian/Late Proterozoic	mafic metavolcanic rock	felsic metavolcanic rock	CZmv
Aboveground Facilities							
	Area (Acres)	**Near Milepost**					
Lambert Compressor Station & Interconnect / MLV 1	8.6	0.0		Upper Triassic	sandstone	siltstone	TRss
MLV 2	<0.1	7.4		Proterozoic Z-Cambrian	mica schist	gneiss	Zfm
MLV 3	<0.1	18.3		Upper Triassic	conglomerate		TRc
LN 3600 Interconnect	0.9	28.2		Triassic	sandstone	mudstone	TRdp
T-15 Dan River Interconnect / MLV 4	0.8	30.4		Triassic	sandstone	mudstone	TRdp
MLV 5	<0.1	42.2		Cambrian/Late Proterozoic	biotite gneiss	mica schist	CZbg
MLV 6	<0.1	55.1		Cambrian/Late Proterozoic	felsic metavolcanic rock	mafic metavolcanic rock	CZfv
MLV 7	<0.1	68.7		Cambrian/Late Proterozoic	metamorphic rock		CZg
T-21 Haw River Interconnect / MLV 8	0.6	73.2RR		Cambrian/Late Proterozoic	mafic metavolcanic rock	felsic metavolcanic rock	CZmv
T-21 Haw River Interconnect / MLV 8	0.0	73.2RR		Paleozoic/Late Proterozoic	metamorphic rock		PzZg

Table 6-B-2 Shallow Bedrock Locations
NOTE: The desktop analysis in Table 6-B-2 is superseded with the Project information in Table 27-1, Areas of Potential FAE for Right-of-Way grade and Pipeline Trench Excavation [FERC Accession No. 20191023-5011]

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Attachment 20-1

Updated Correspondence Log for Communications with the VADEQ

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