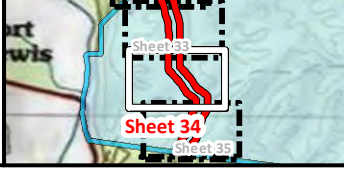


Soil Test Pit	Approximate Property Marker	Centerline Alignment (Rev-10 & Rev-11)	Area of Investigation	NRCS Soil Unit Boundary
Proposed Pit Location	Depression	Elevation Contour (40' Interval)	Soil Unit Boundary (ID Key in Attachment 6)	Grid Sheet
Transect Location	Rock Outcrop	Revised Area of Investigation	George Washington National Forest	
Mile Post	Spring	Road	Monongahela National Forest	

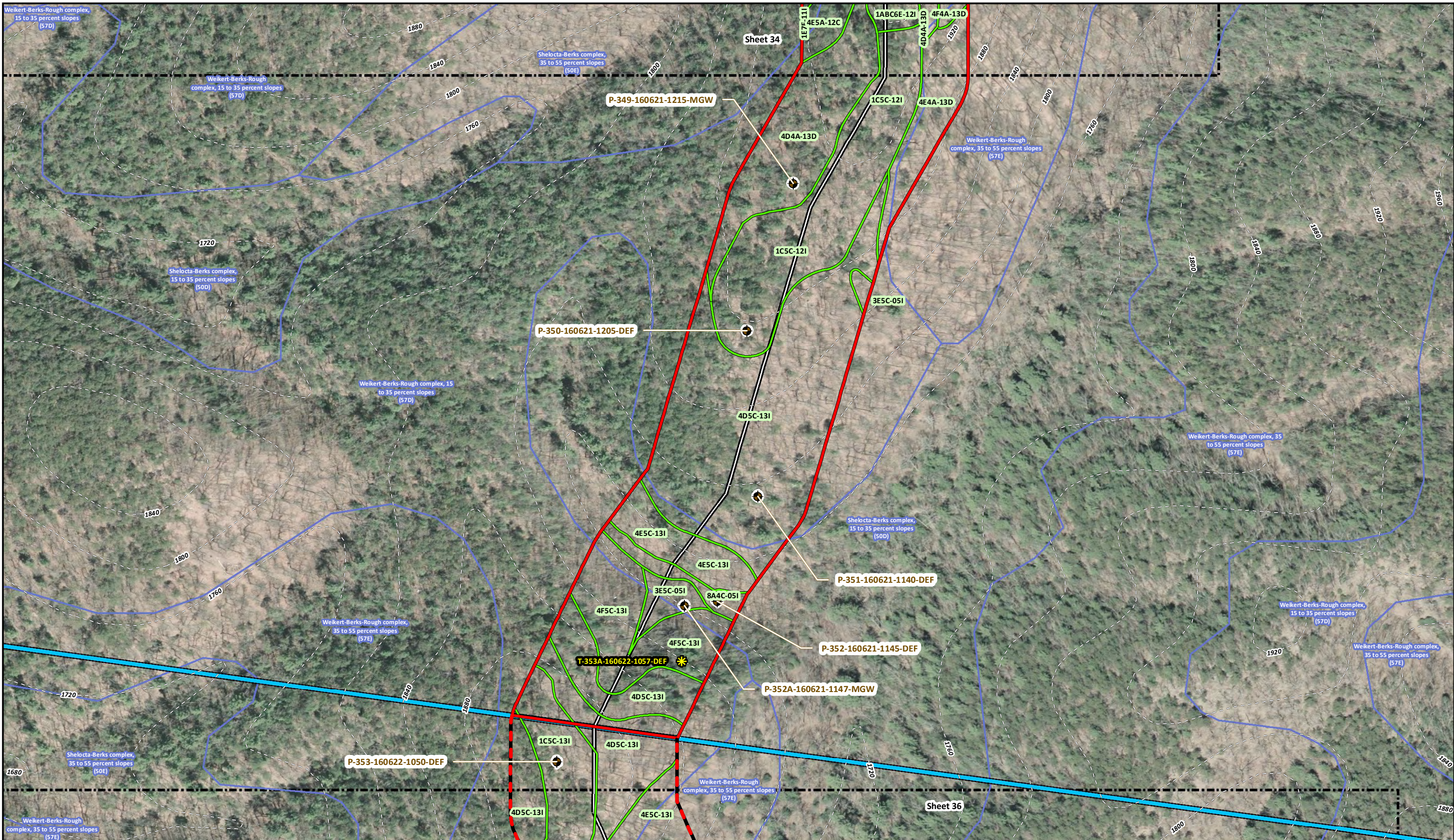


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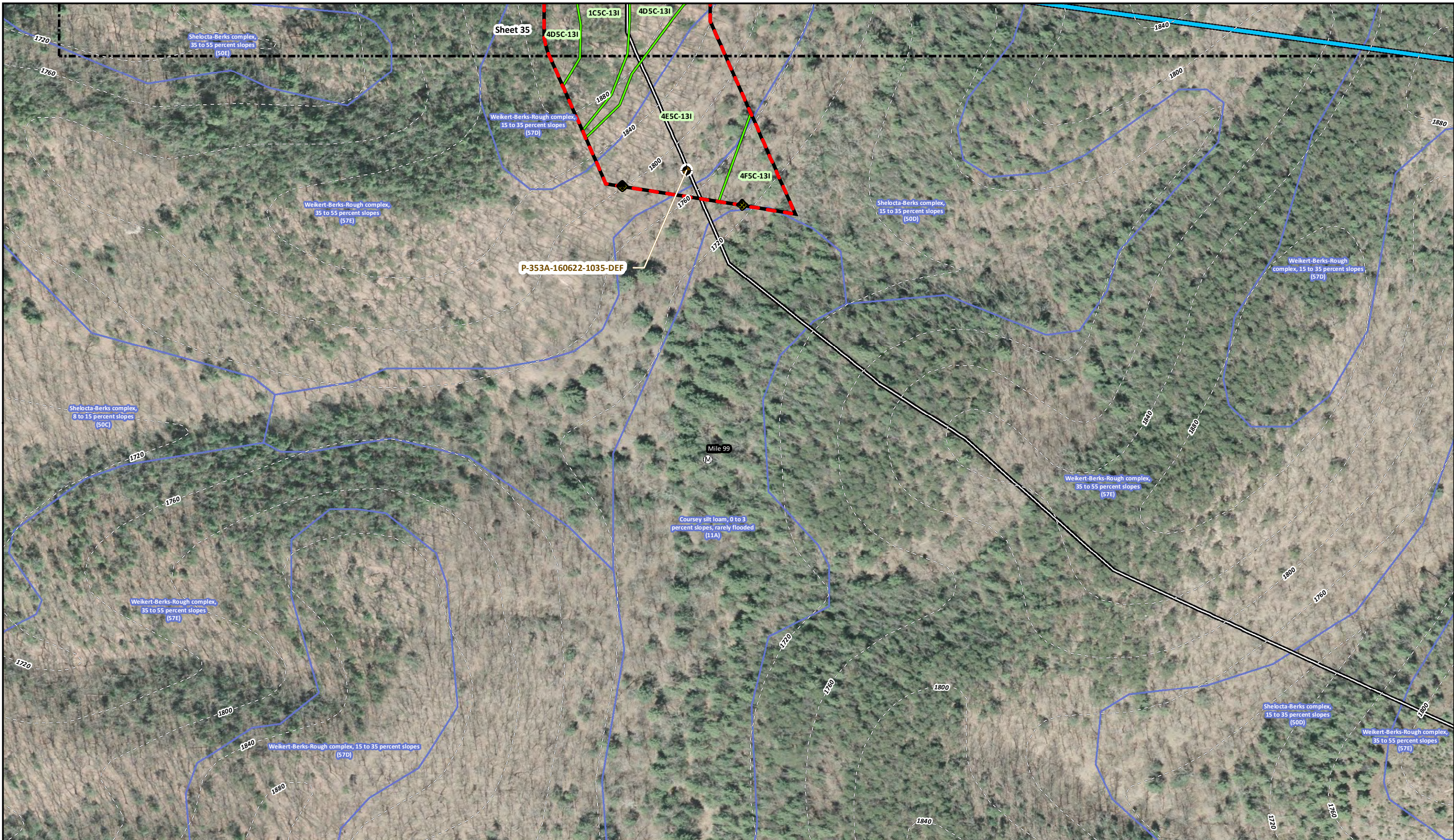
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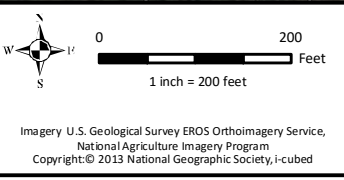
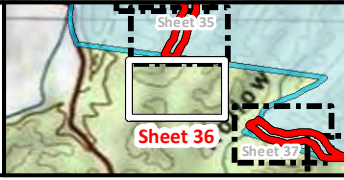
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCS Soil Unit Boundary Grid Sheet 			<p>Geosyntec consultants RETTEW</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 35 of 64 Bath County, VA Project No. 089962000</p>
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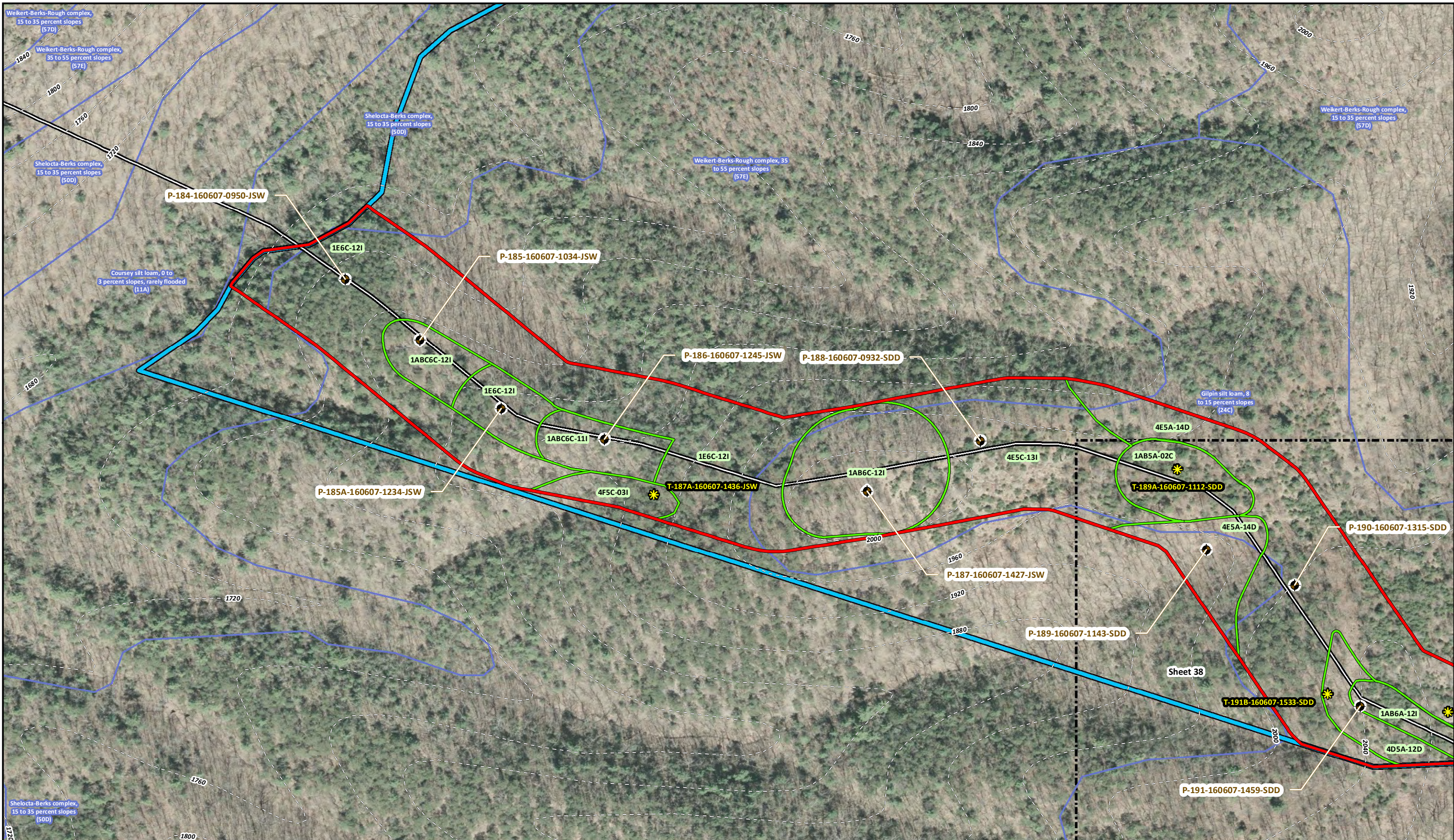
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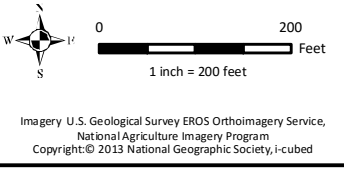
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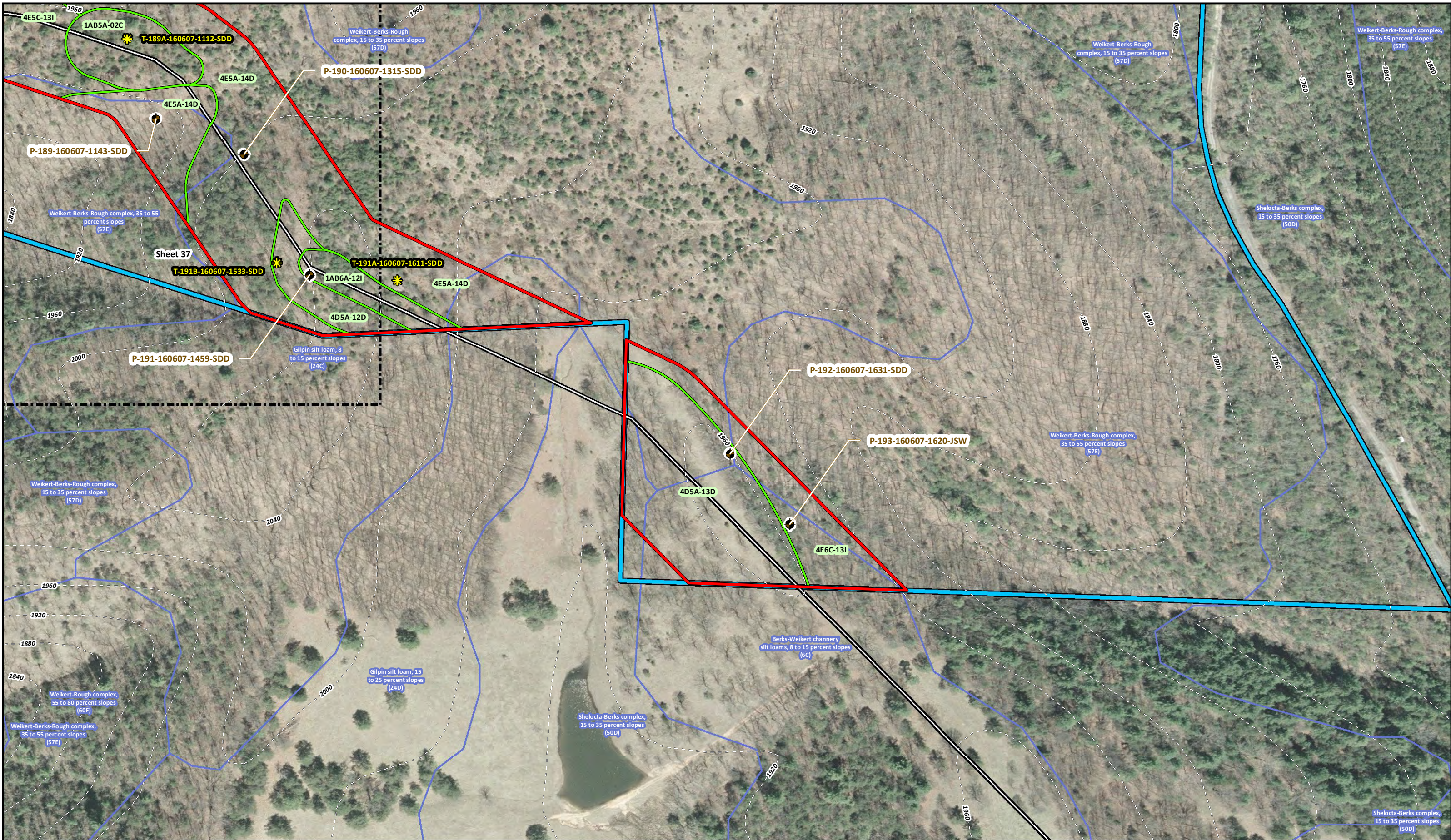


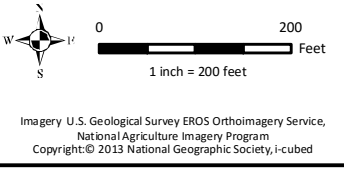
- Soil Test Pit
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- Transect Location
- Mile Post
- Approximate Property Marker
- Depression
- Rock Outcrop
- Spring
- Centerline Alignment (Rev-10 & Rev-11)
- Elevation Contour (40' Interval)
- Revised Area of Investigation
- Road
- Area of Investigation
- Soil Unit Boundary (ID Key in Attachment 6)
- George Washington National Forest
- Monongahela National Forest
- NRCS Soil Unit Boundary
- Grid Sheet



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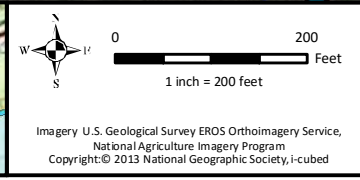
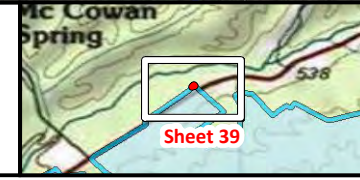
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Bath County, VA
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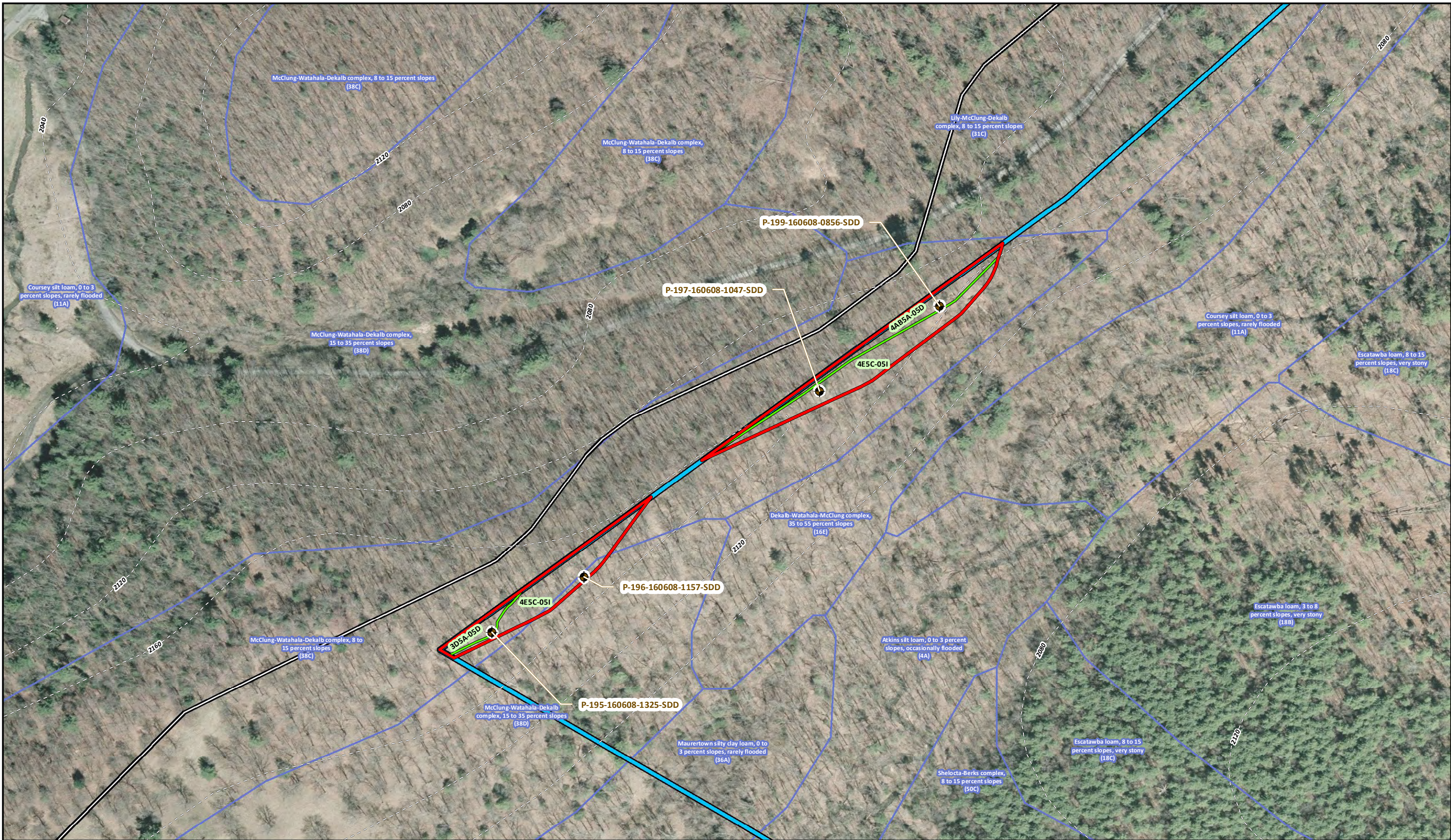


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|-----------------------|-----------------------------|--|---|-------------------------|
| Soil Test Pit | Approximate Property Marker | Centerline Alignment (Rev-10 & Rev-11) | Area of Investigation | NRCS Soil Unit Boundary |
| Proposed Pit Location | Depression | Elevation Contour (40' Interval) | Soil Unit Boundary (ID Key in Attachment 6) | Grid Sheet |
| Transect Location | Rock Outcrop | Revised Area of Investigation | George Washington National Forest | |
| Mile Post | Spring | Road | Monongahela National Forest | |

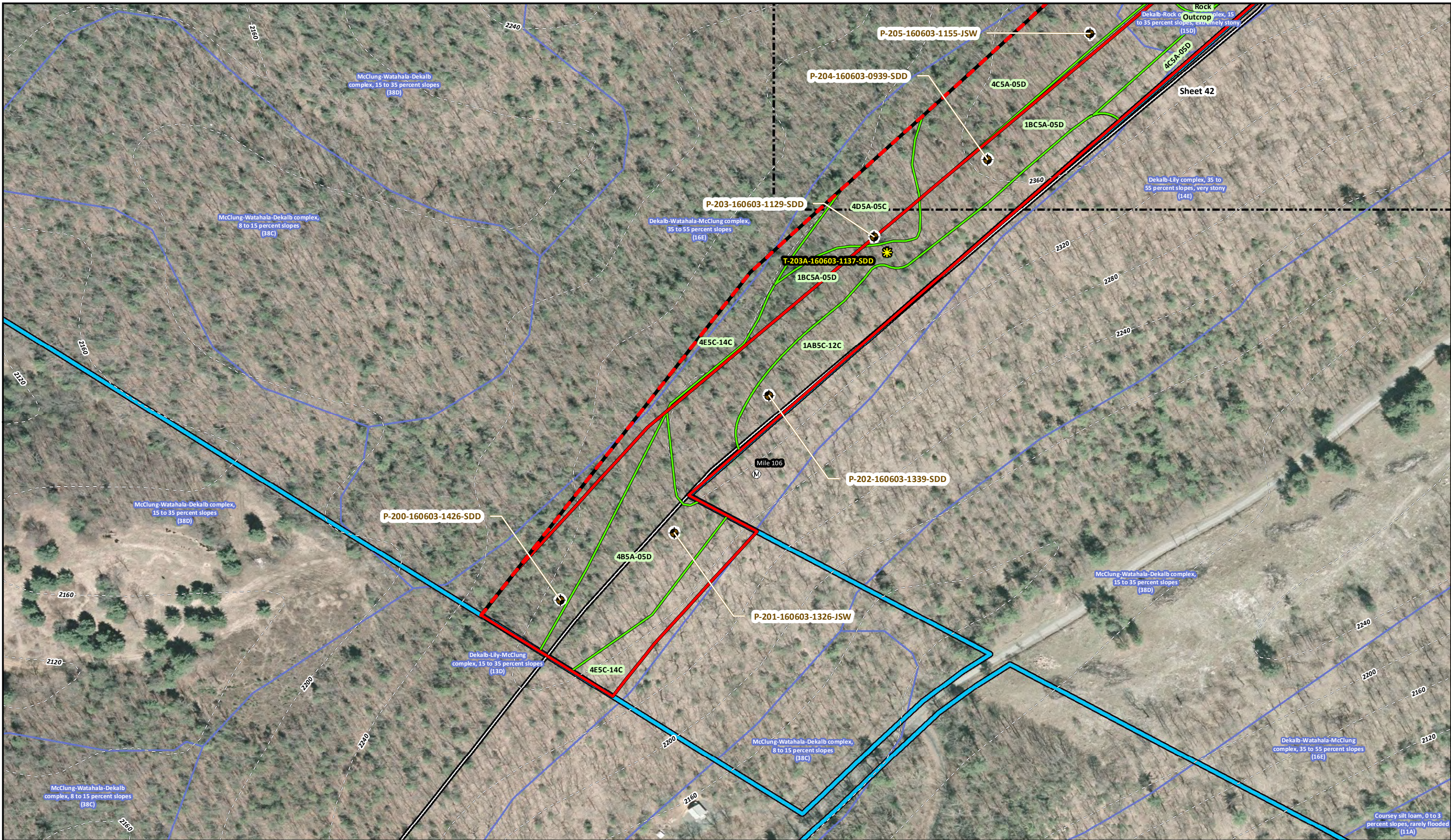


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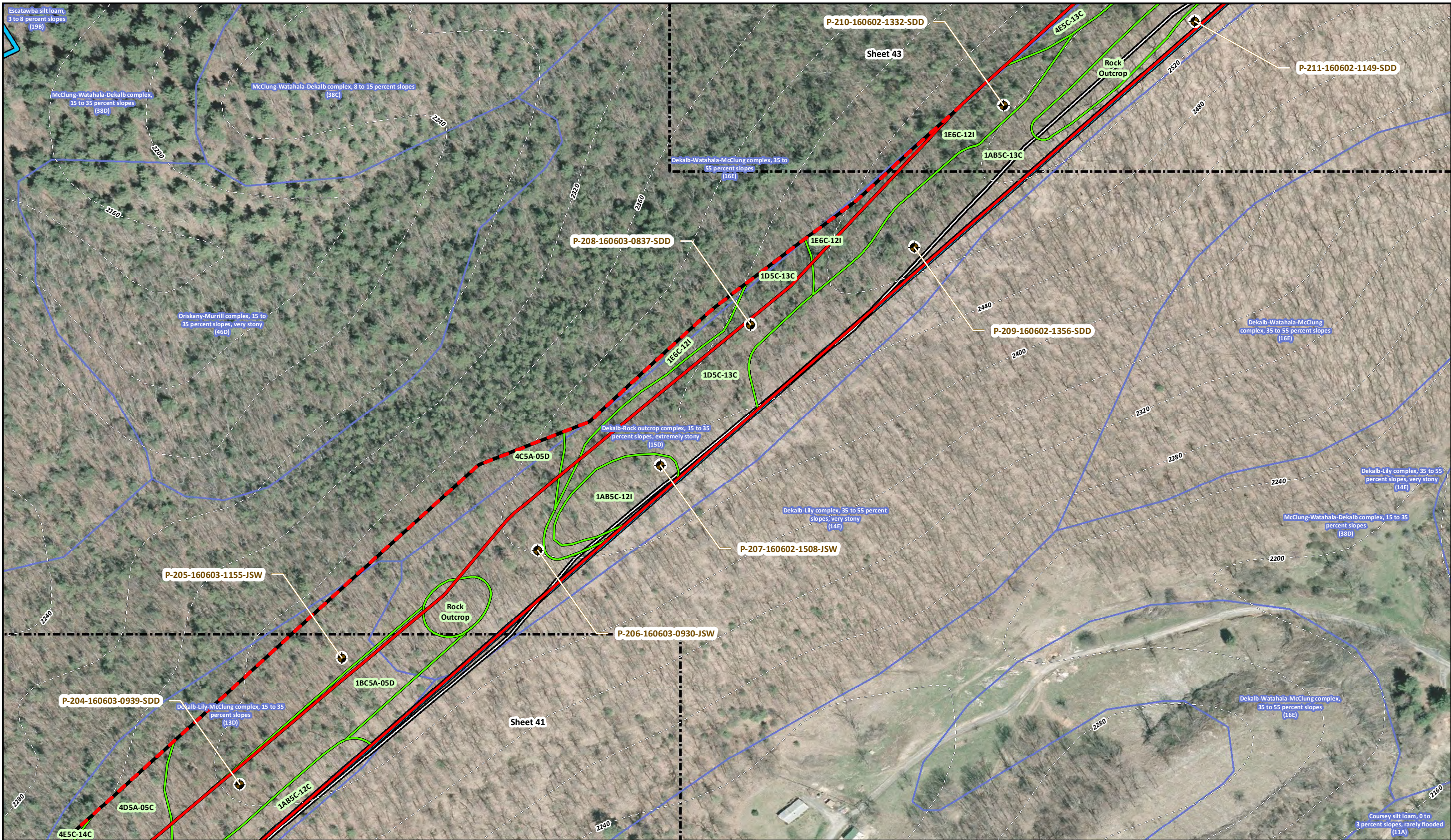
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCs Soil Unit Boundary Grid Sheet 	<p style="text-align: center;">Sheet 40</p>	<p>0 200 Feet 1 inch = 200 feet</p>	<p>Geosyntec consultants RETTEW</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 40 of 64 Bath County, VA Project No. 089962000</p>
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCs Soil Unit Boundary Grid Sheet 		<p>0 200 Feet 1 inch = 200 feet</p> <p>Imagery U.S. Geological Survey EROS Orthoimagery Service, National Agriculture Imagery Program Copyright © 2013 National Geographic Society, i-cubed</p>	<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016</p> <p>Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 41 of 64 Bath County, VA Project No. 089962000</p>
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Sheet 41

Sheet 42

Sheet 43

North Arrow

Scale: 1 inch = 200 feet

0 200 Feet

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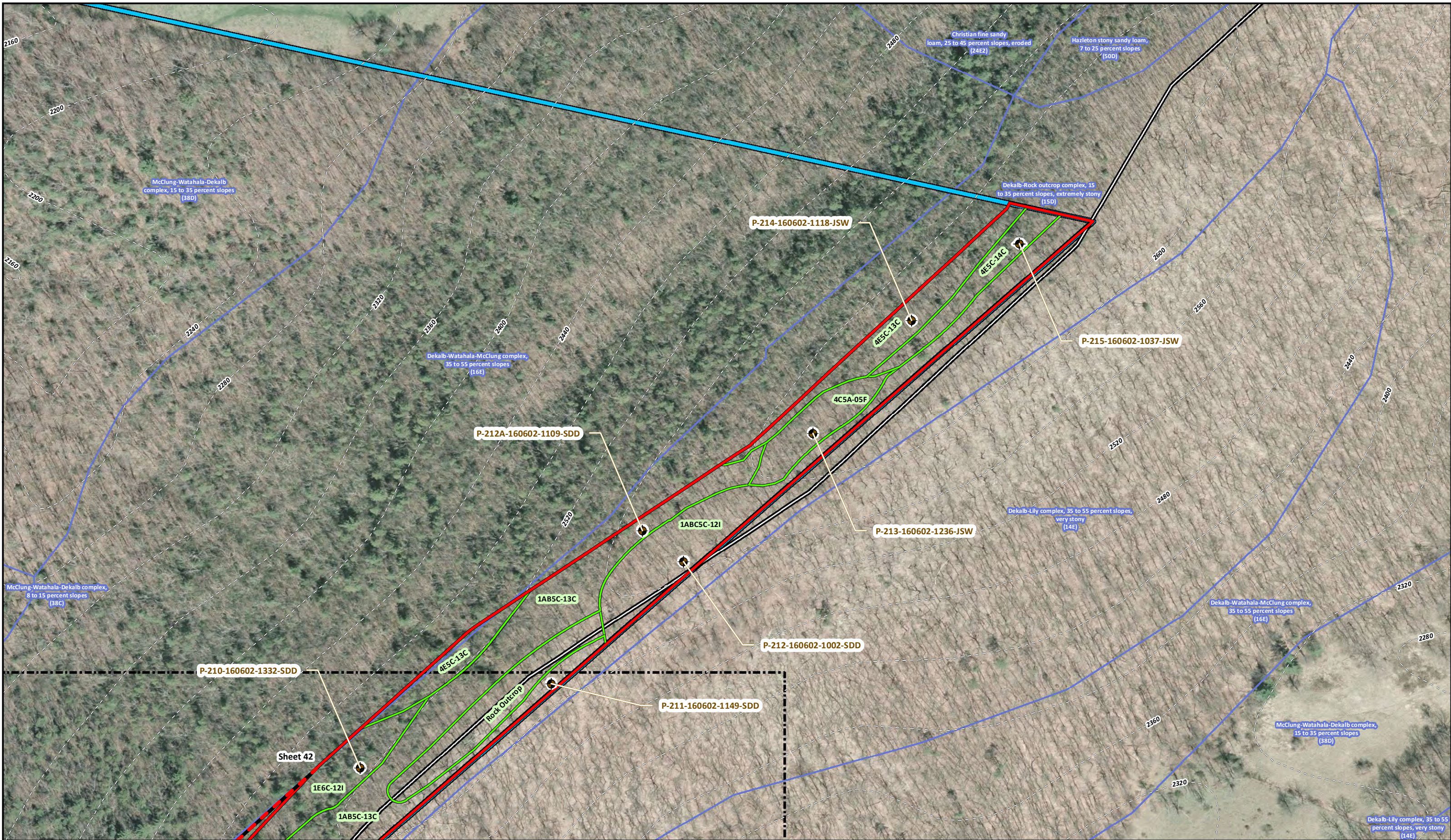
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Order 1 Soil Survey

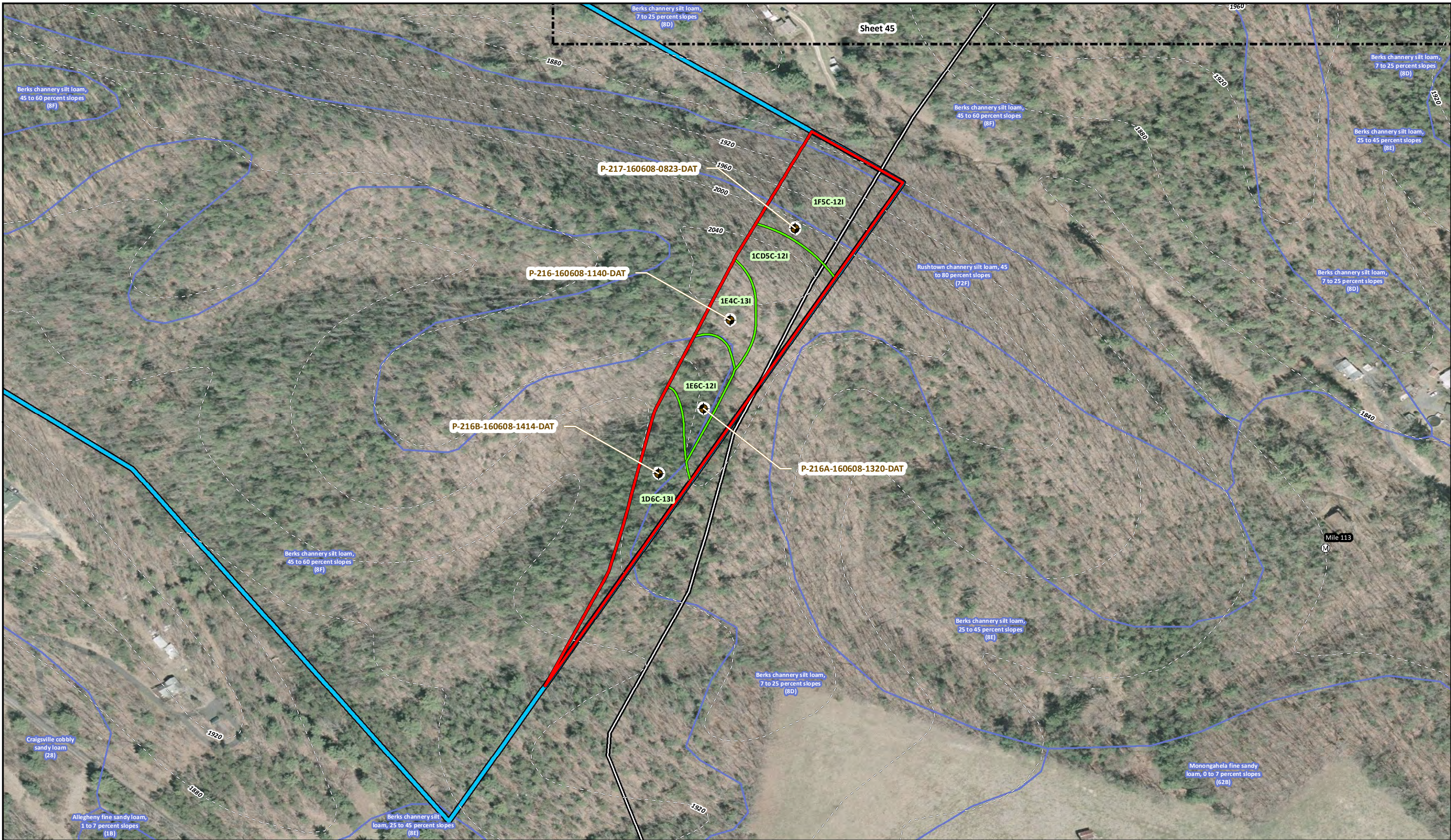
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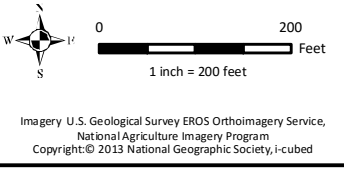
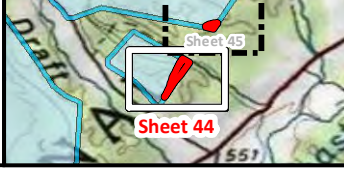
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Project No. 089962000



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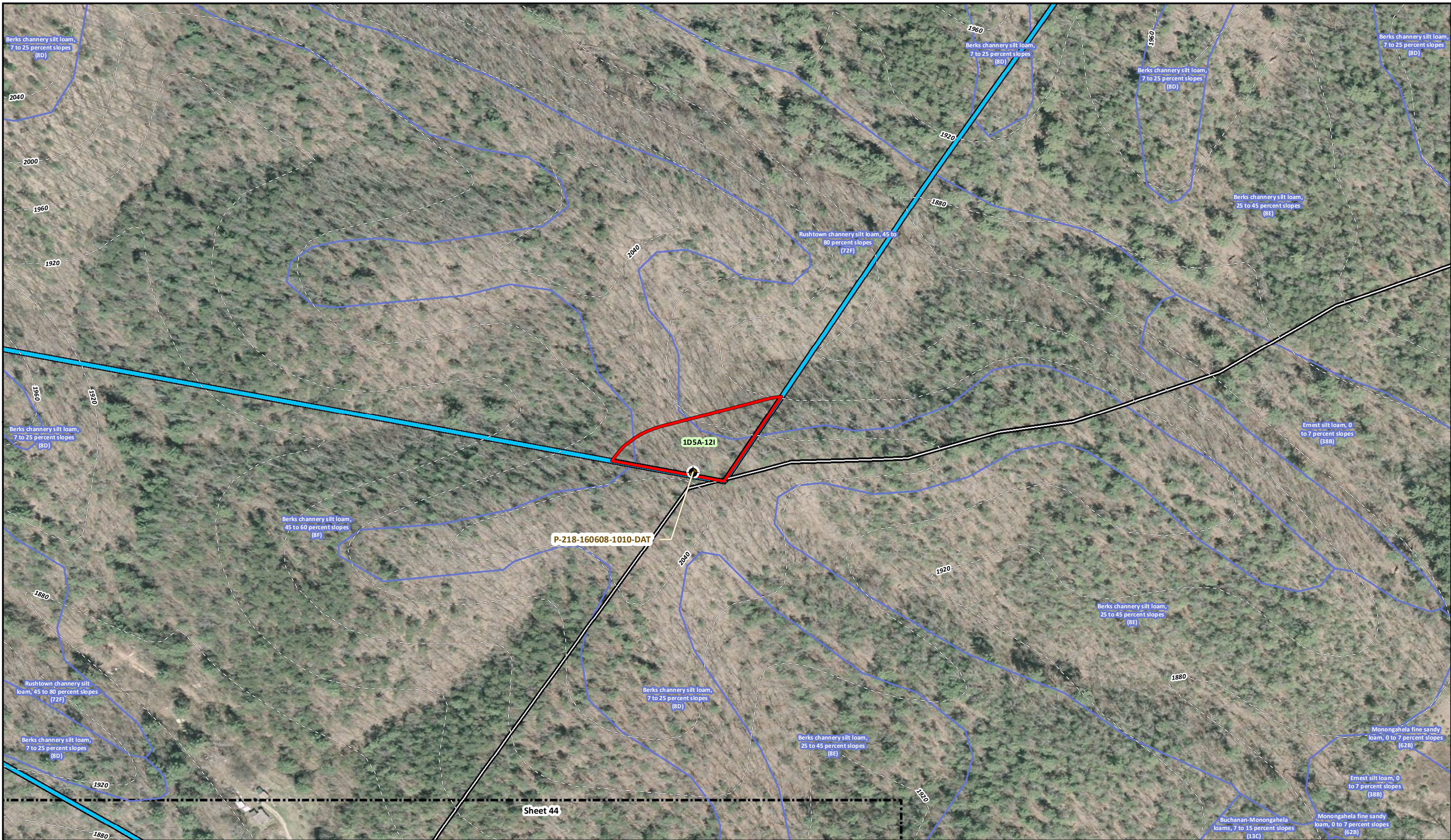


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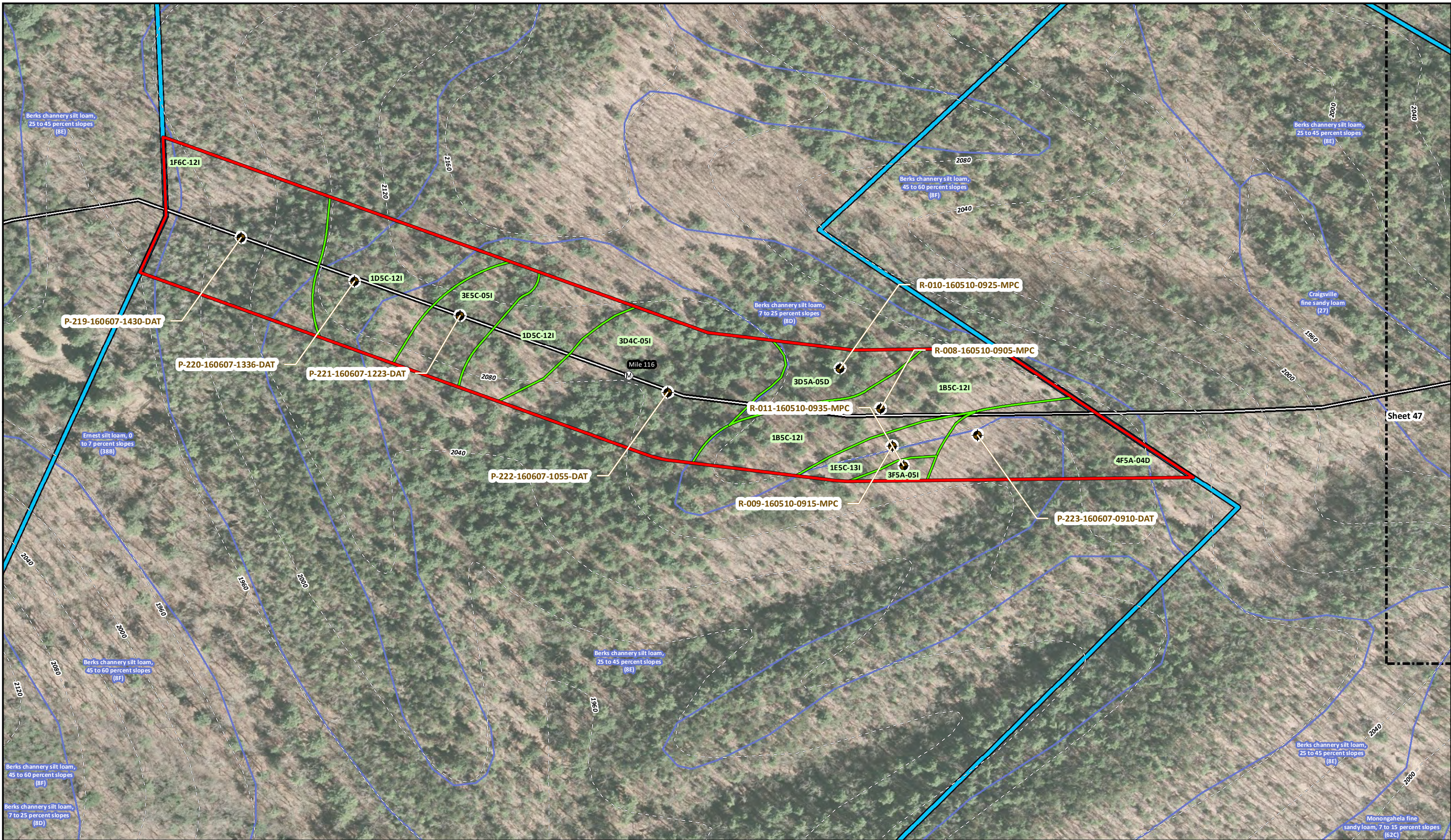
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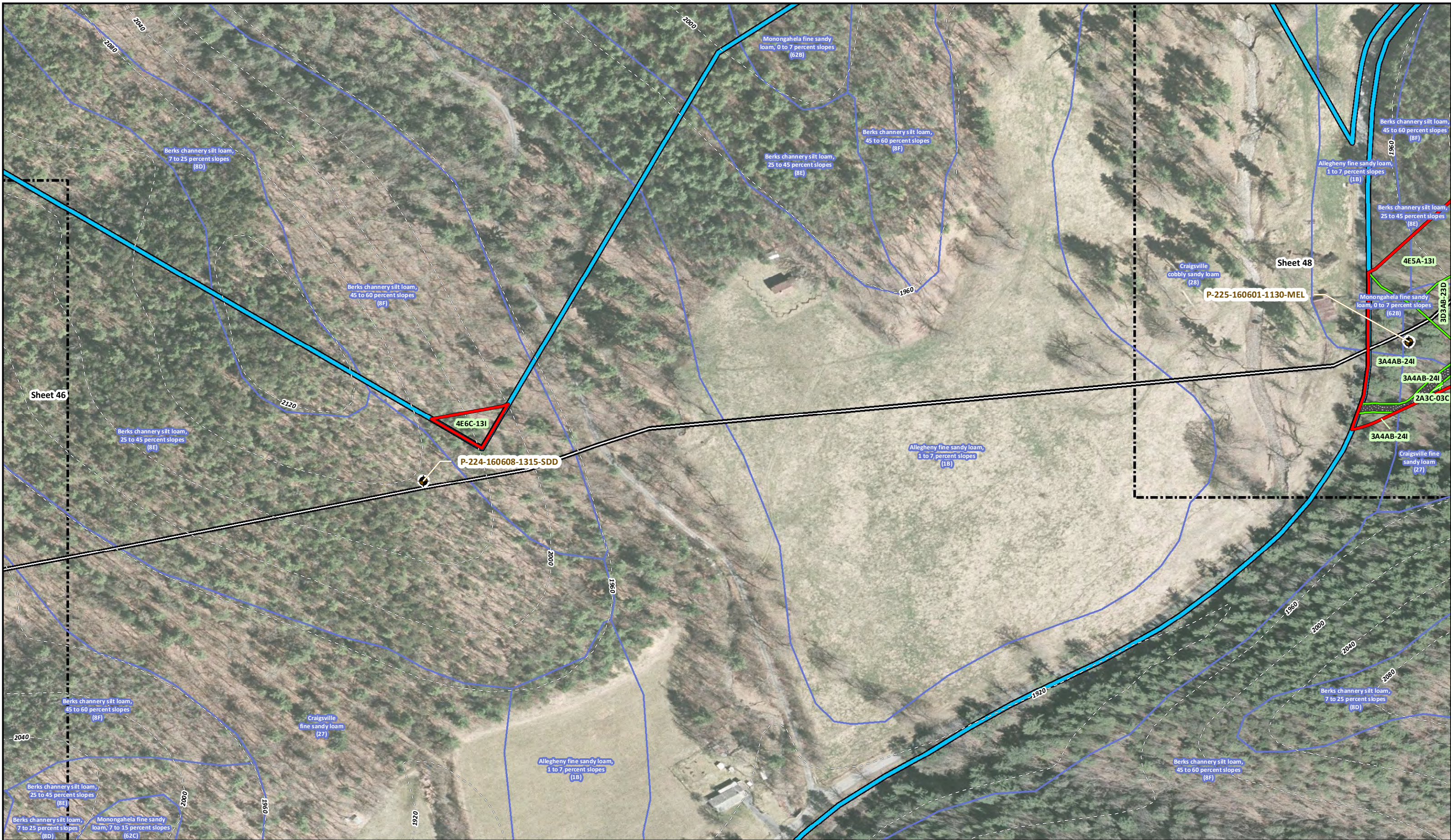
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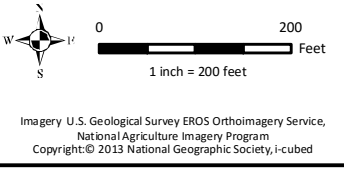
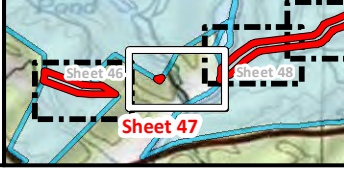


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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCS Soil Unit Boundary Grid Sheet 		<p>Imagery U.S. Geological Survey EROS Orthoimagery Service, National Agriculture Imagery Program Copyright © 2013 National Geographic Society, i-cubed</p>	<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016 Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 46 of 64 Augusta County, VA Project No. 089962000</p>
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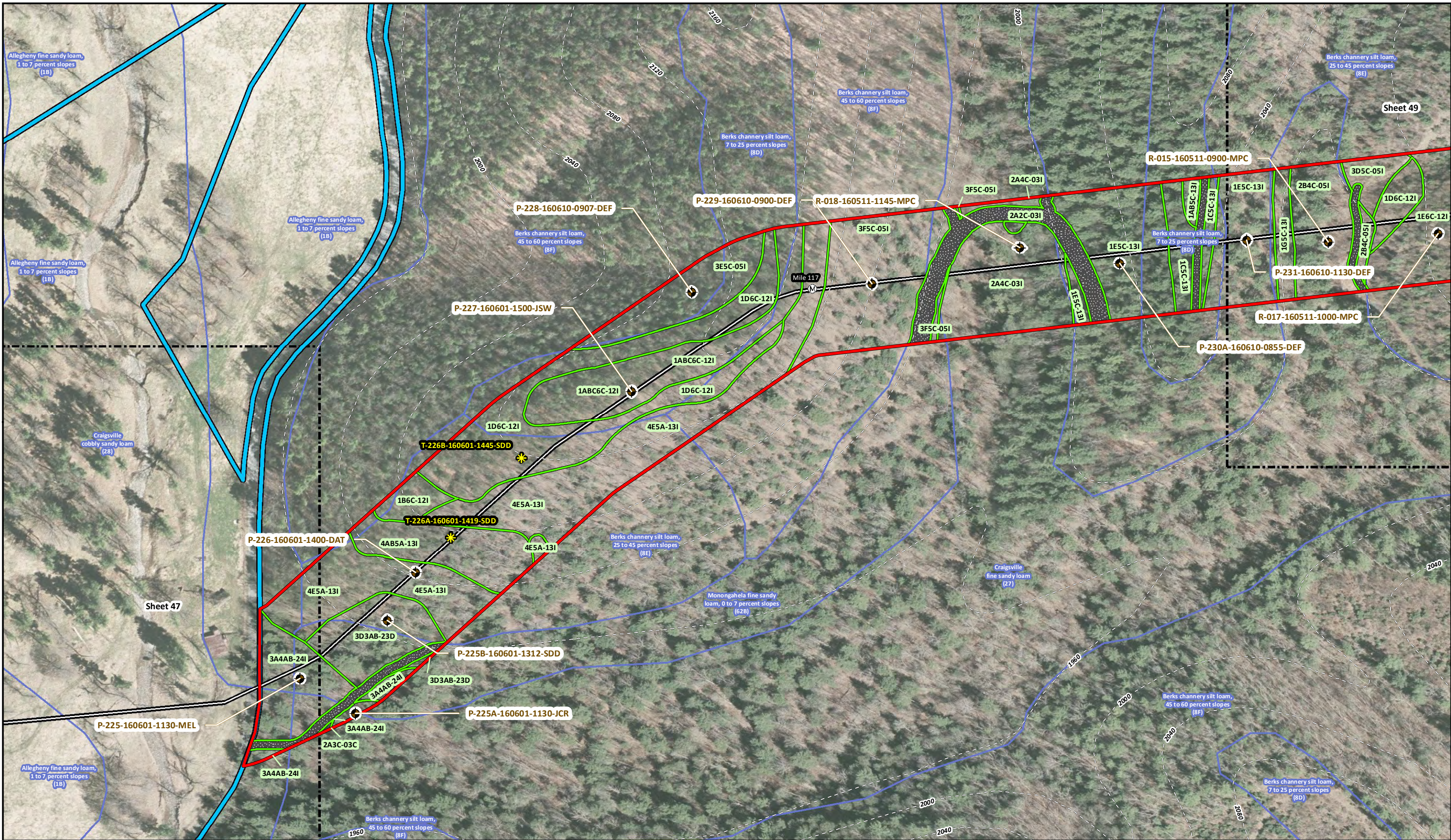


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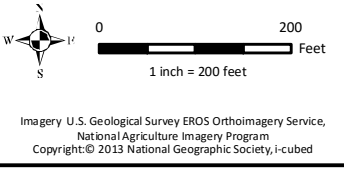
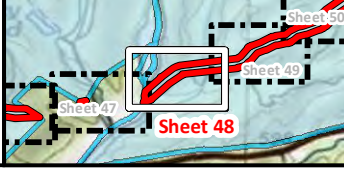
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- Soil Test Pit
- Proposed Pit Location
- Transect Location
- Mile Post
- Approximate Property Marker
- Depression
- Rock Outcrop
- Spring
- Centerline Alignment (Rev-10 & Rev-11)
- Elevation Contour (40' Interval)
- Revised Area of Investigation
- Road
- Area of Investigation
- Soil Unit Boundary (ID Key in Attachment 6)
- George Washington National Forest
- Monongahela National Forest
- NRCS Soil Unit Boundary
- Grid Sheet

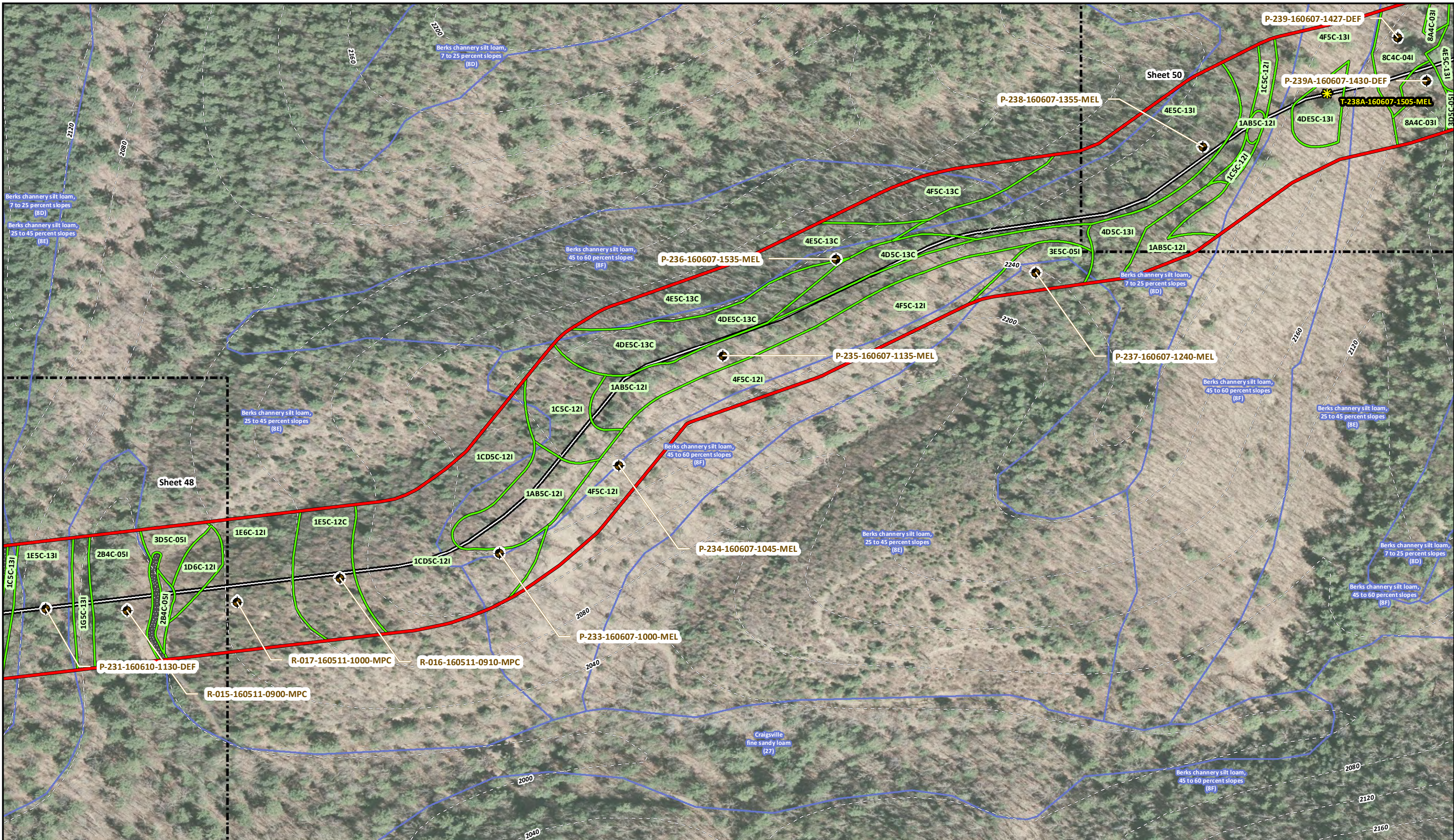


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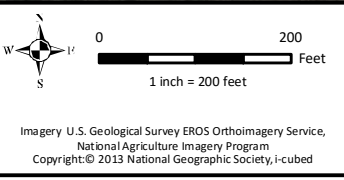
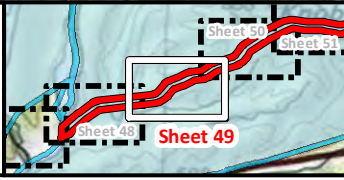
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- Soil Test Pit
- Proposed Pit Location
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- George Washington National Forest
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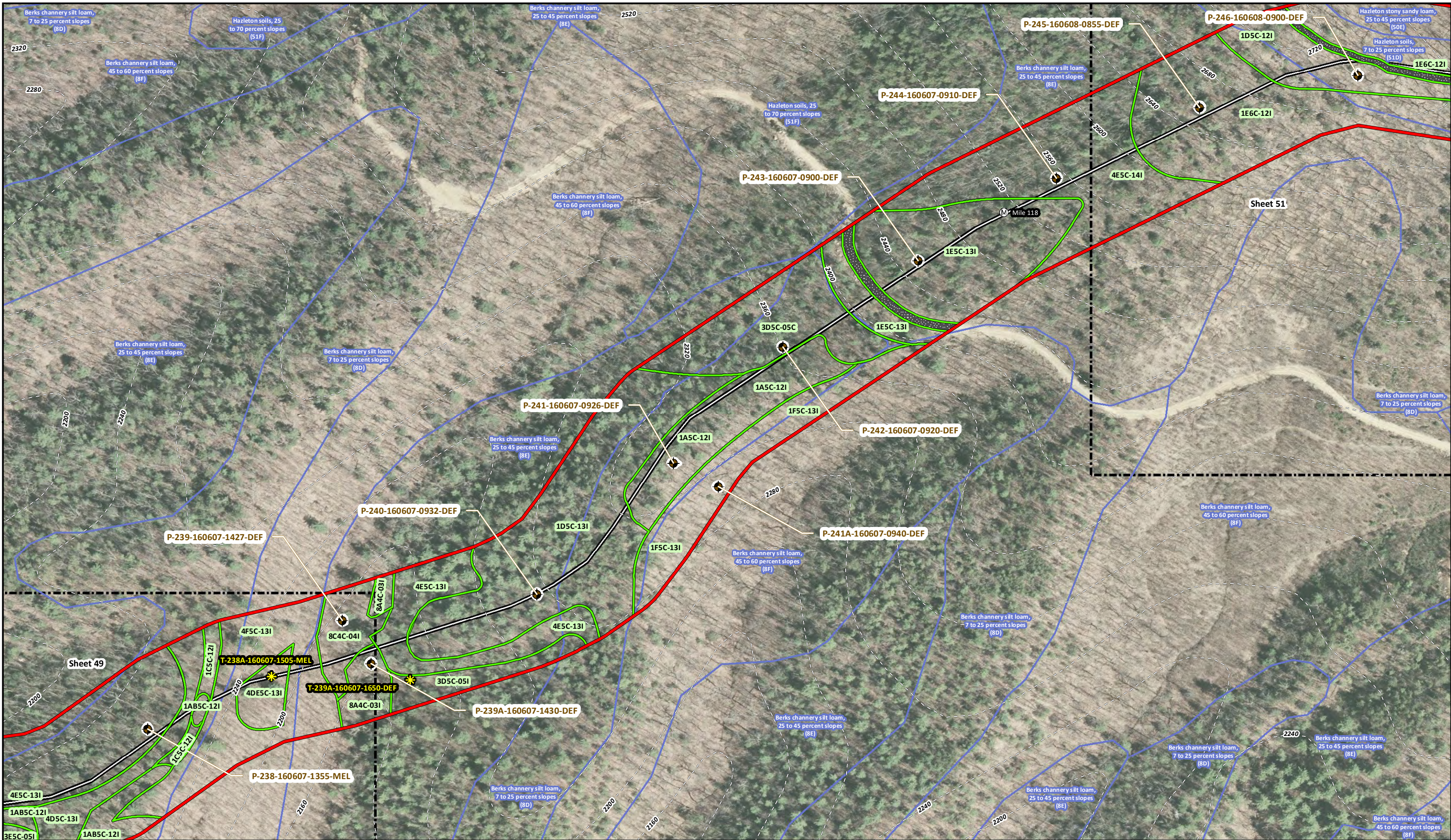


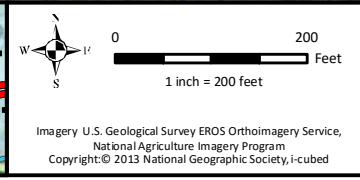
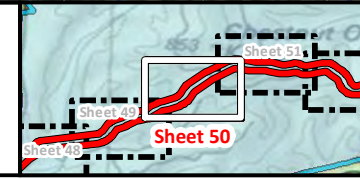
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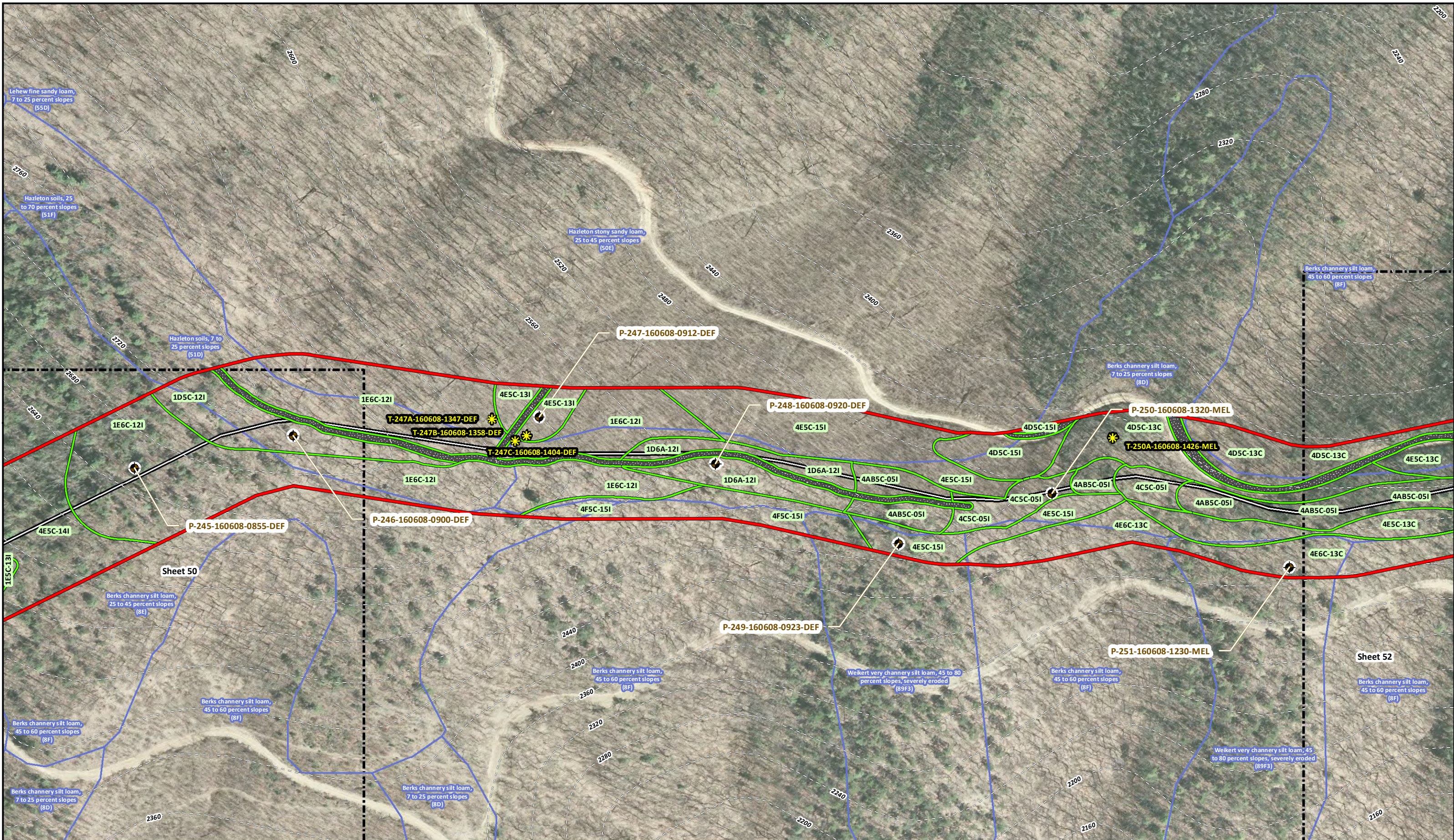


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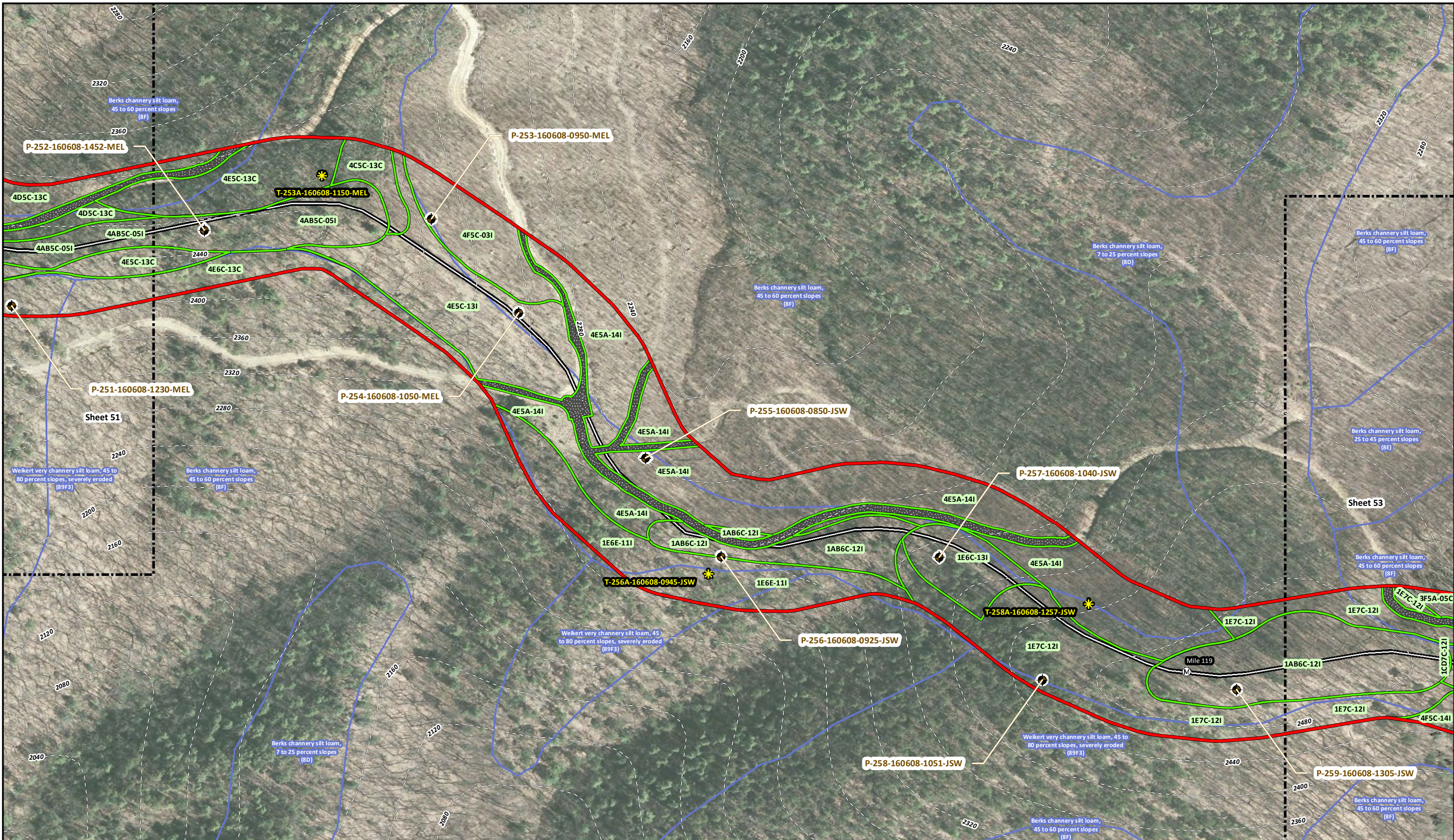
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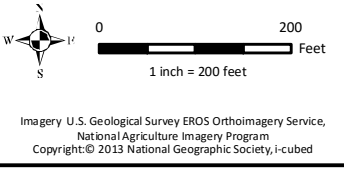
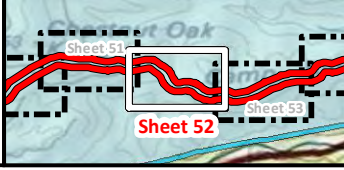
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRC Soil Unit Boundary Grid Sheet 		<p>Imagery U.S. Geological Survey EROS Orthoimagery Service, National Agriculture Imagery Program Copyright © 2013 National Geographic Society, i-cubed</p>	<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016</p> <p>Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 51 of 64 Augusta County, VA Project No. 089962000</p>
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Soil Test Pit	Approximate Property Marker	Centerline Alignment (Rev-10 & Rev-11)	Area of Investigation	NRC Soil Unit Boundary
Proposed Pit Location	Depression	Elevation Contour (40' Interval)	Soil Unit Boundary (ID Key in Attachment 6)	Grid Sheet
Transect Location	Rock Outcrop	Revised Area of Investigation	George Washington National Forest	
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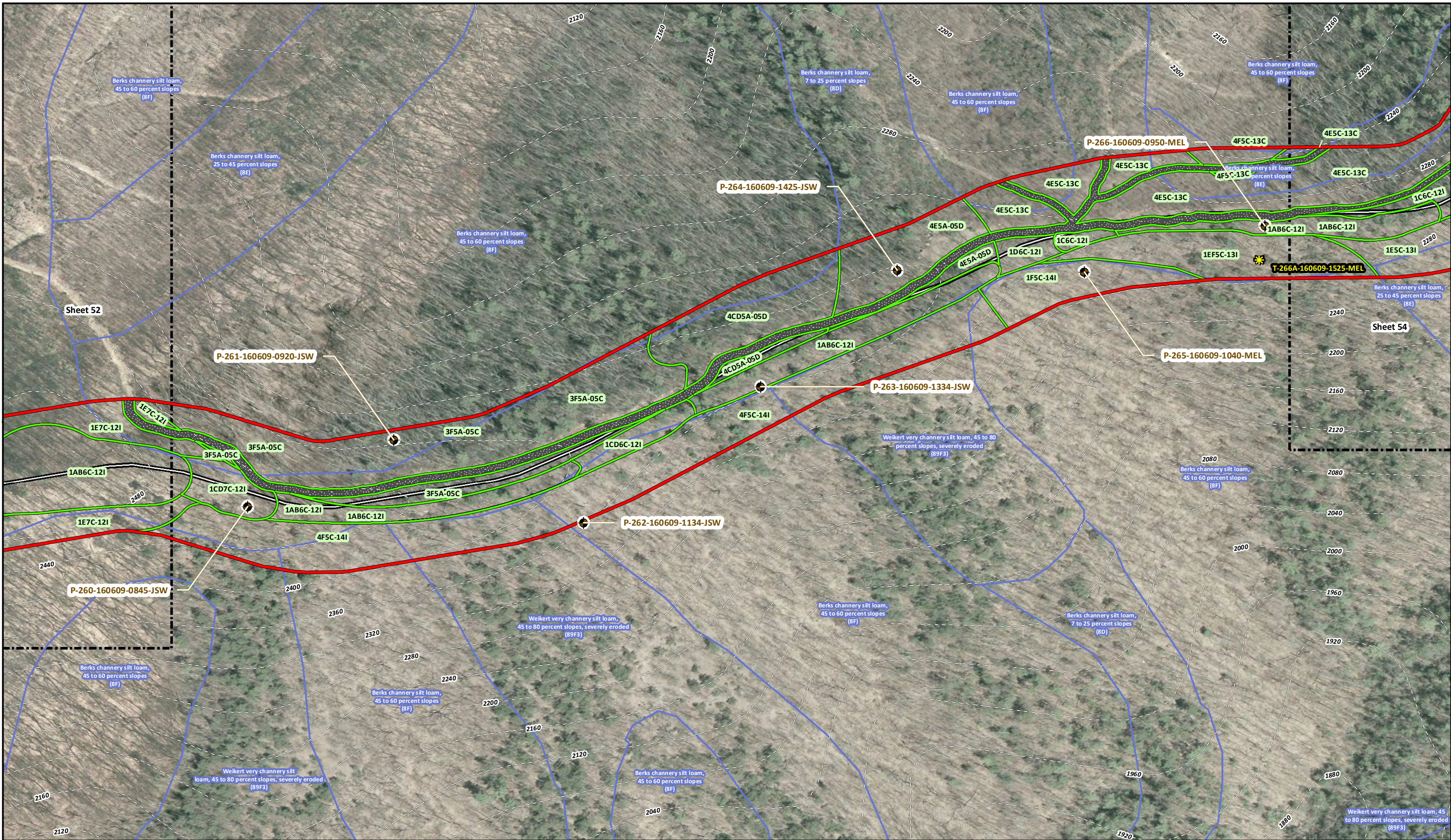


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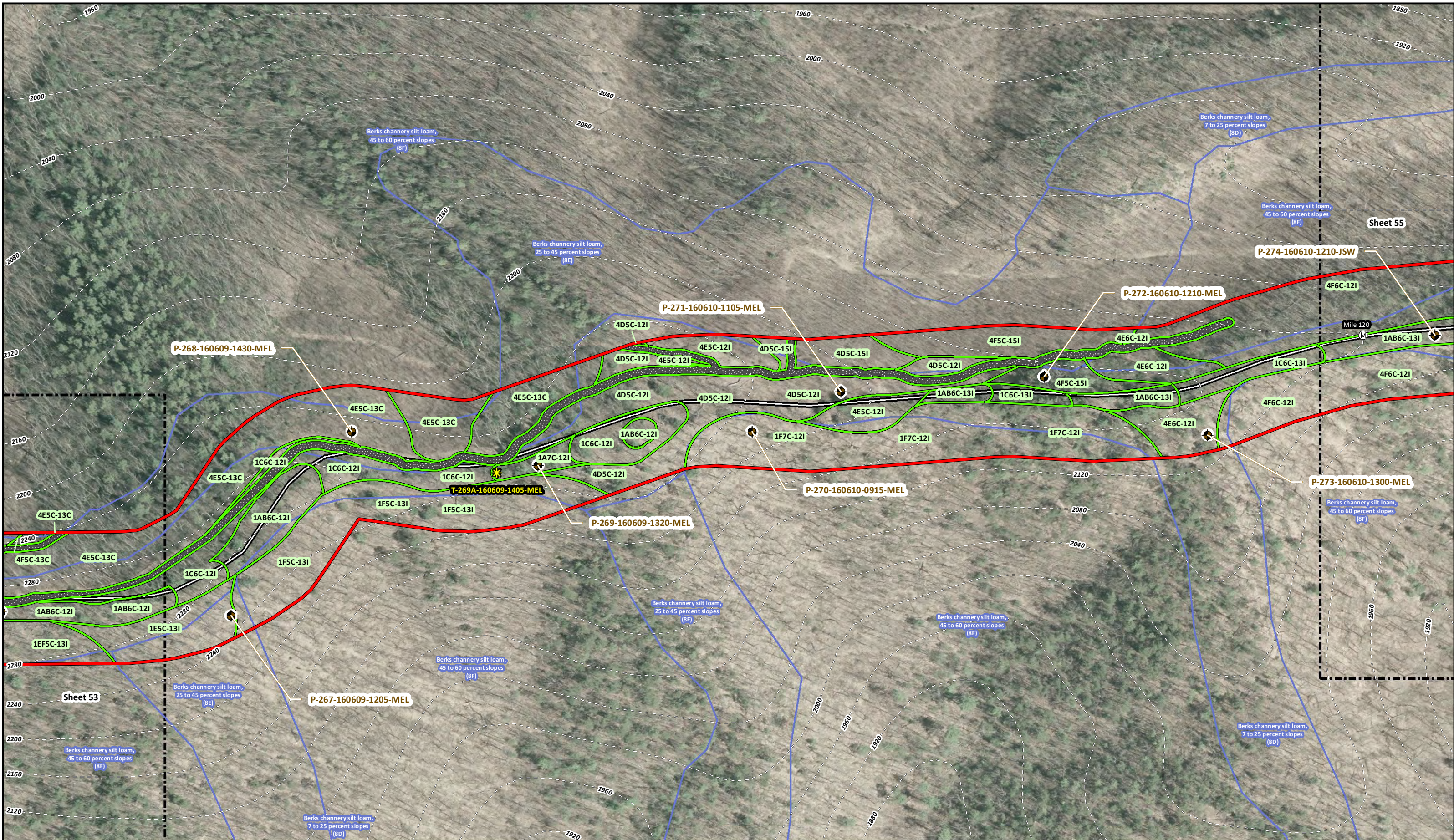
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCS Soil Unit Boundary Grid Sheet 		<p>Imagery U.S. Geological Survey EROS Orthoimagery Service, National Agriculture Imagery Program Copyright © 2013 National Geographic Society, i-cubed</p>	<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016</p> <p>Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 53 of 64 Augusta County, VA Project No. 089962000</p>
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- Soil Test Pit
- Proposed Pit Location
- Transect Location
- Mile Post
- Approximate Property Marker
- Depression
- Rock Outcrop
- Spring
- Centerline Alignment (Rev-10 & Rev-11)
- Elevation Contour (40' Interval)
- Revised Area of Investigation
- Road
- Area of Investigation
- Soil Unit Boundary (ID Key in Attachment 6)
- George Washington National Forest
- Monongahela National Forest
- NRC Soil Unit Boundary
- Grid Sheet

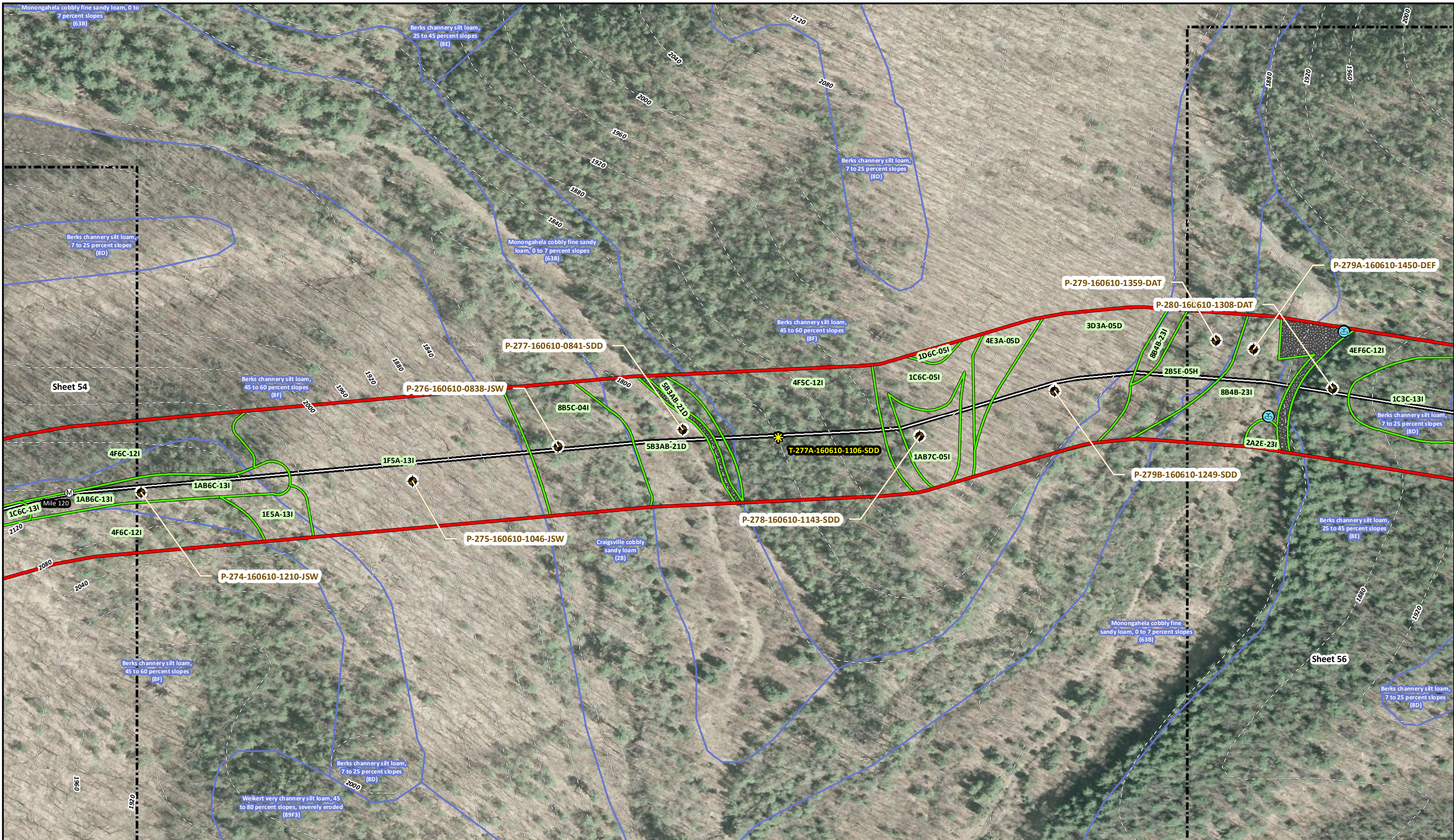
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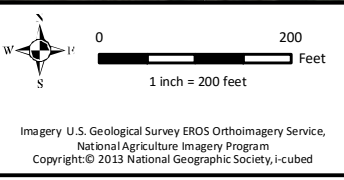
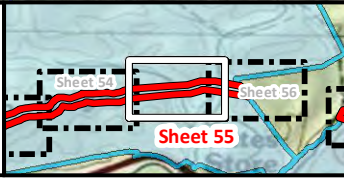
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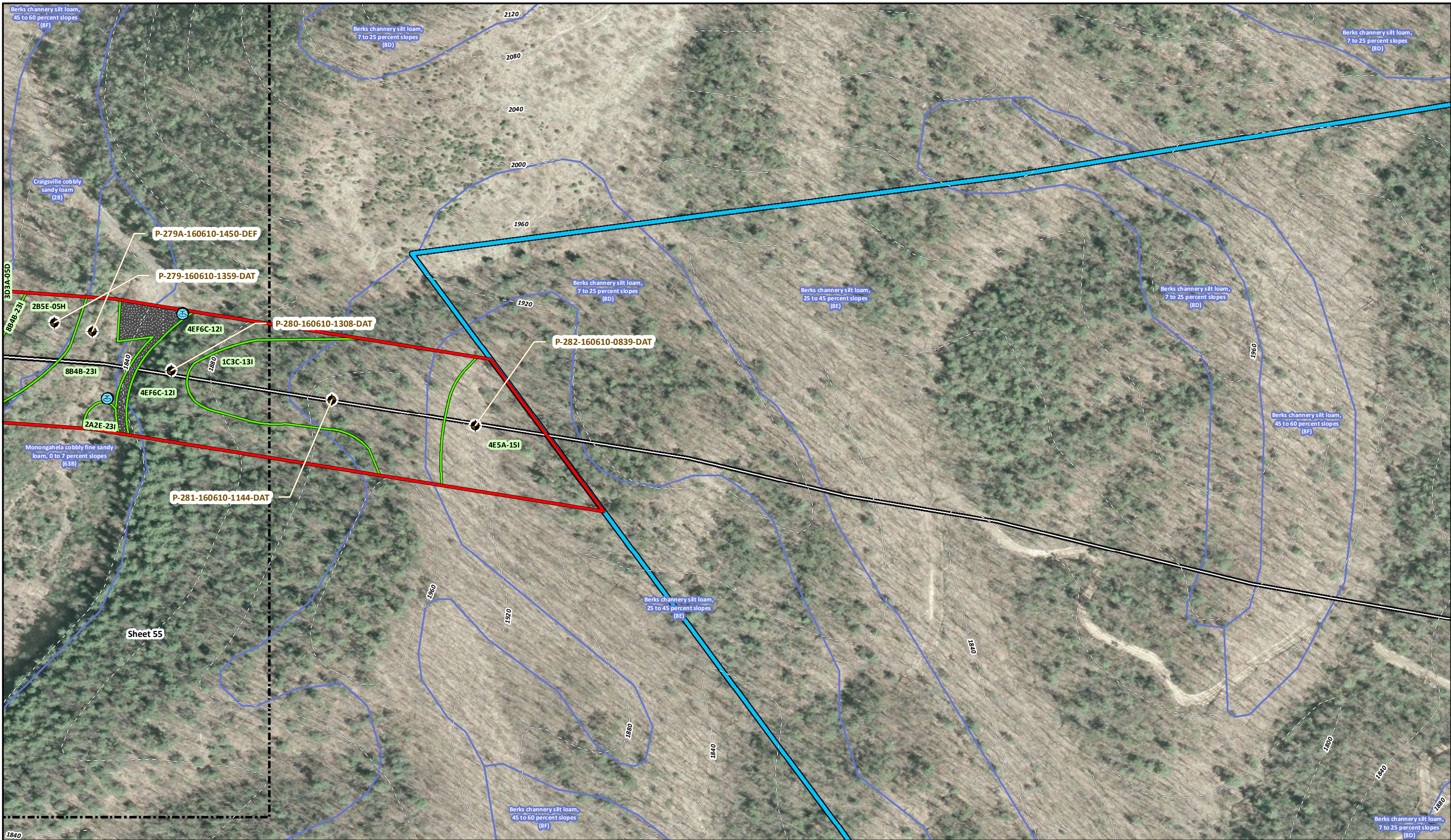
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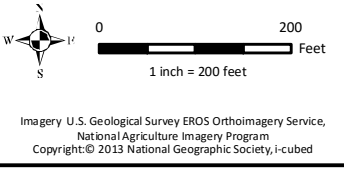
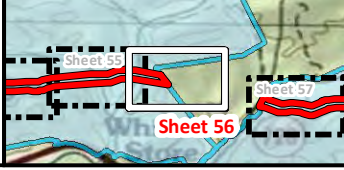
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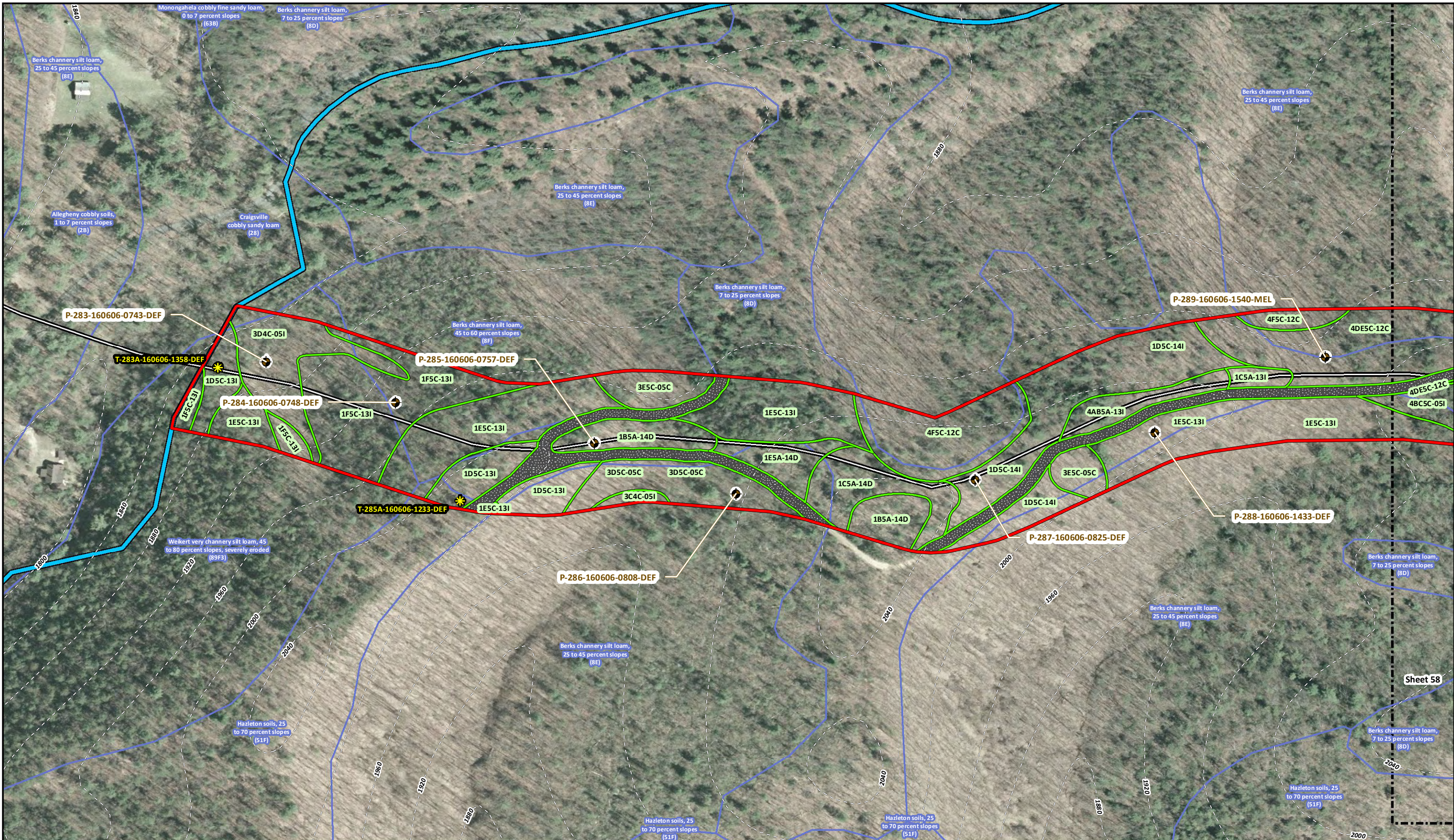




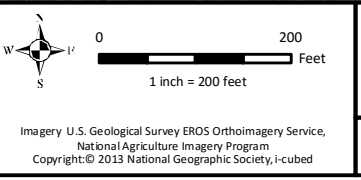
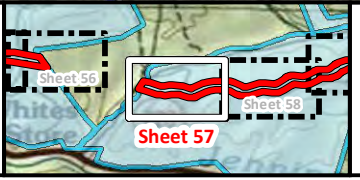
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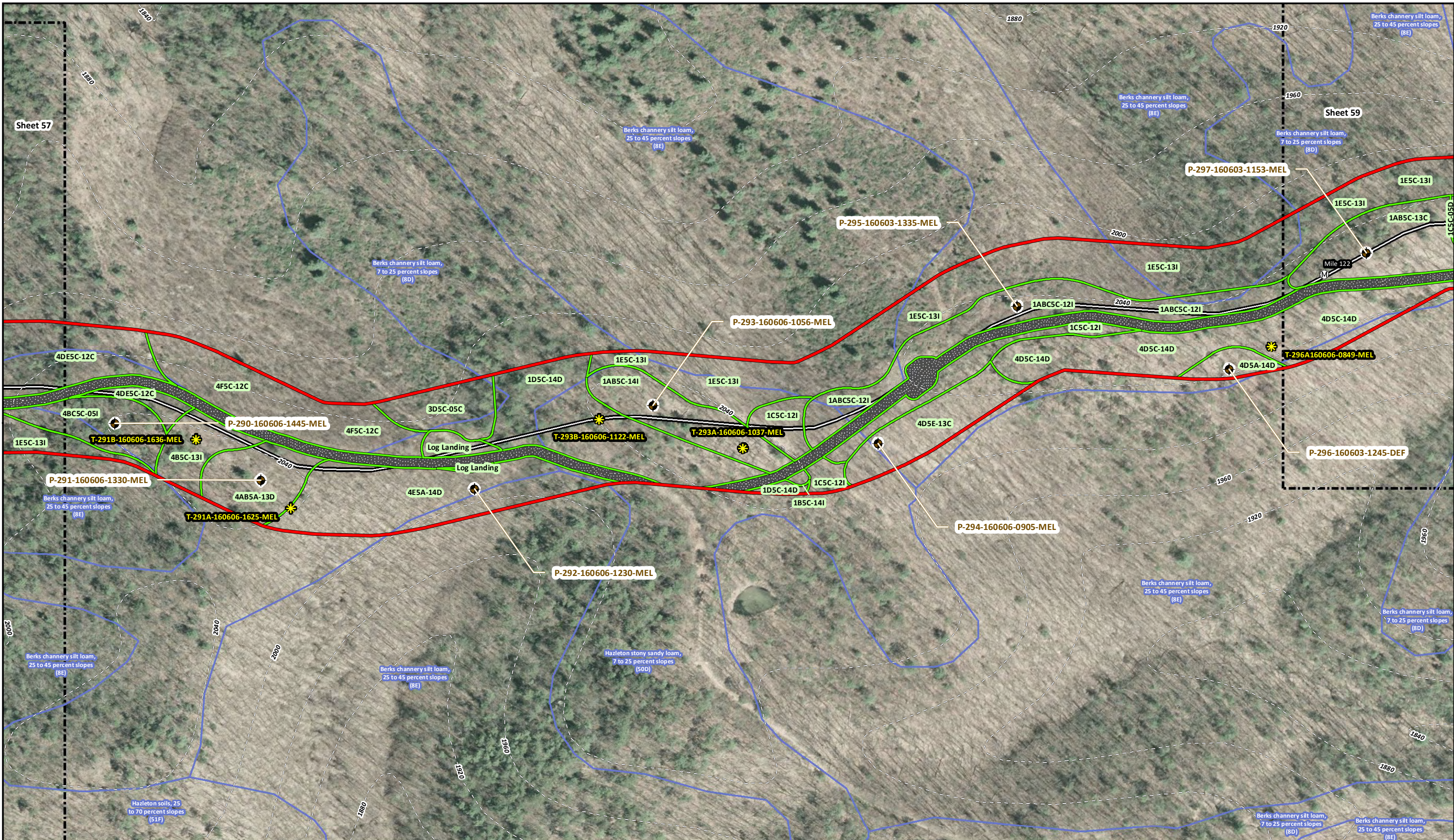


- Soil Test Pit
- Proposed Pit Location
- Transect Location
- Mile Post
- Approximate Property Marker
- Depression
- Rock Outcrop
- Spring
- Centerline Alignment (Rev-10 & Rev-11)
- Elevation Contour (40' Interval)
- Revised Area of Investigation
- Road
- Area of Investigation
- Soil Unit Boundary (ID Key in Attachment 6)
- George Washington National Forest
- Monongahela National Forest
- NRC Soil Unit Boundary
- Grid Sheet

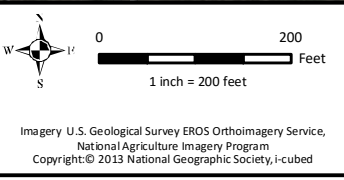
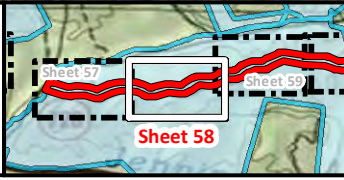


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- Soil Test Pit
- Proposed Pit Location
- Transect Location
- Mile Post
- Approximate Property Marker
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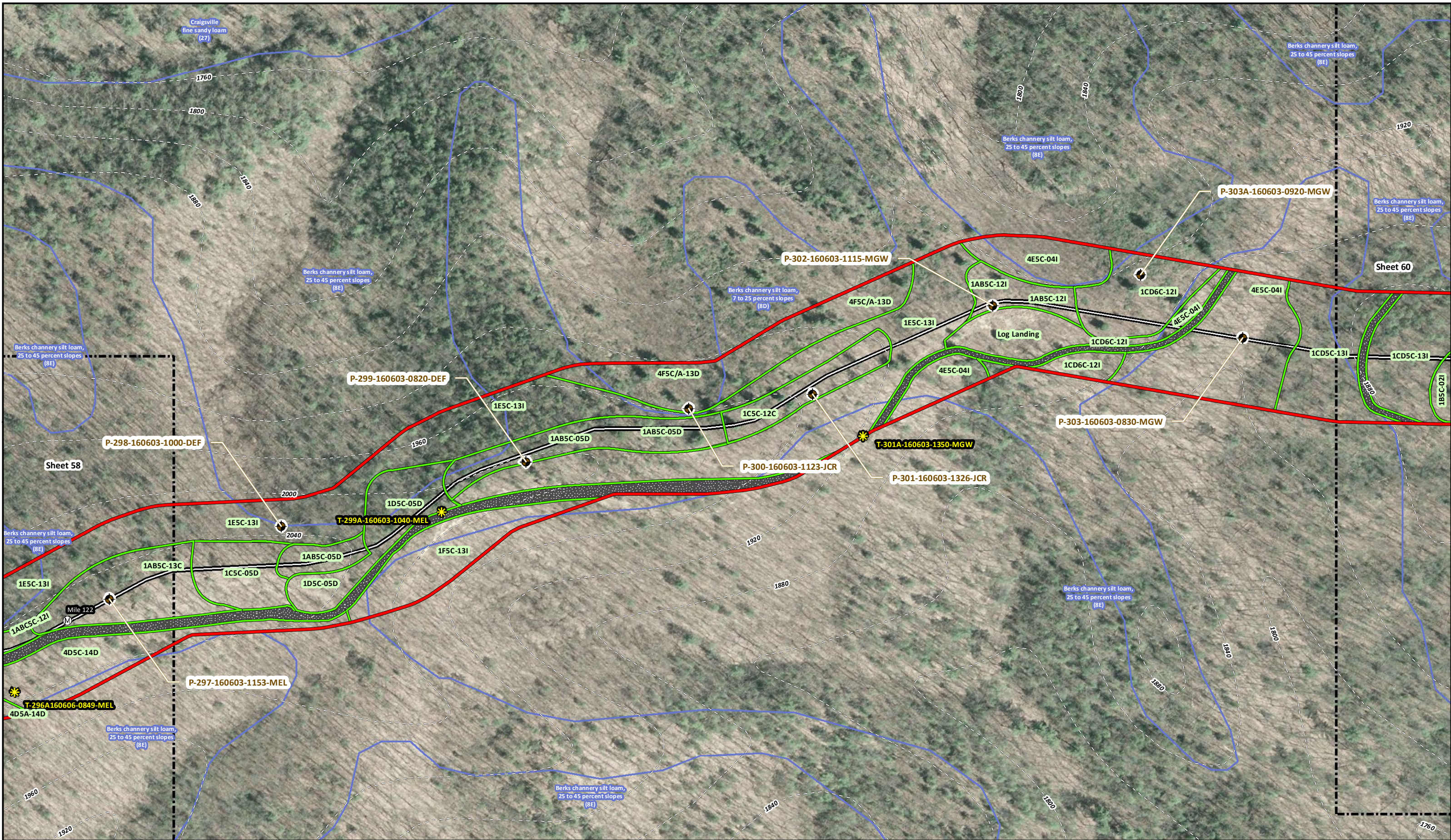


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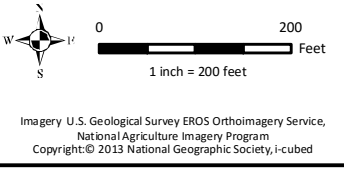
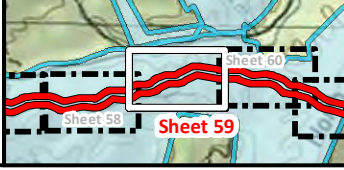
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- Soil Test Pit
- Proposed Pit Location
- Transect Location
- Mile Post
- Approximate Property Marker
- Depression
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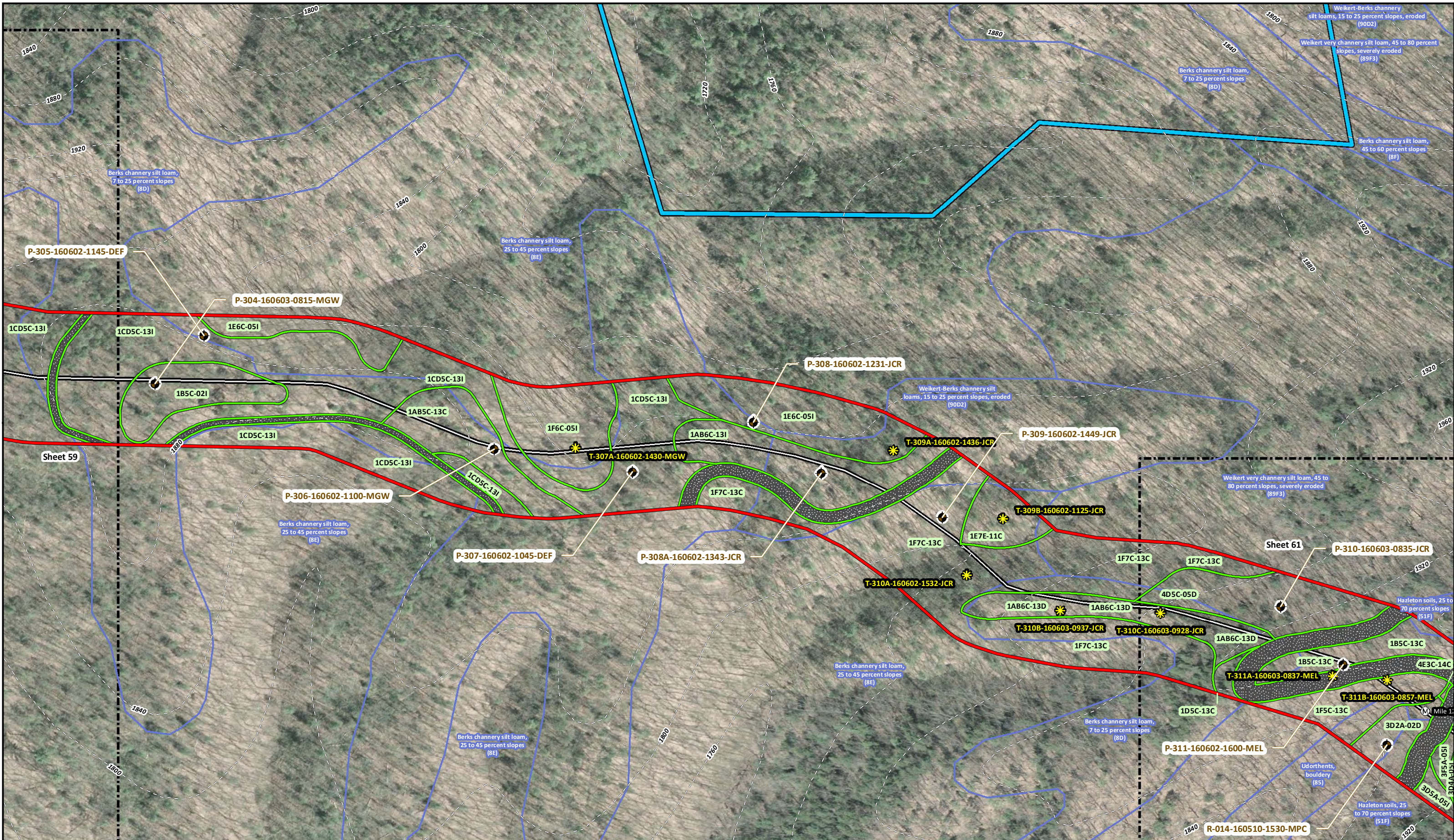


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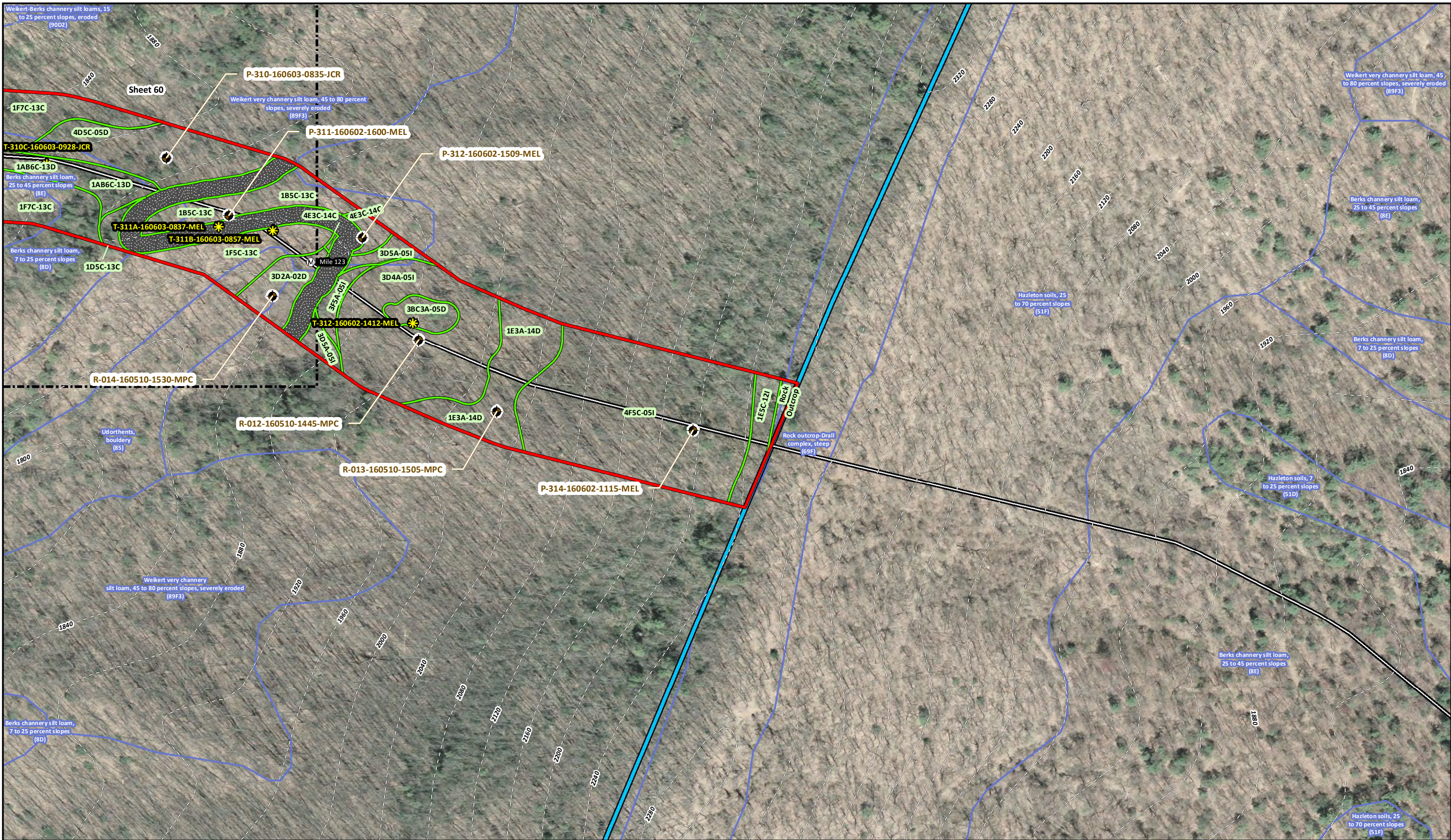
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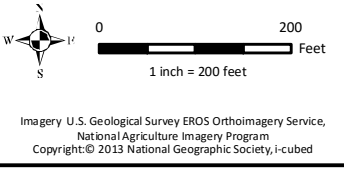
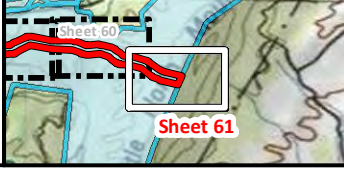
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCs Soil Unit Boundary Grid Sheet 		<p>Imagery U.S. Geological Survey EROS Orthoimagery Service, National Agriculture Imagery Program Copyright © 2013 National Geographic Society, i-cubed</p>	<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016</p> <p>Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 60 of 64 Augusta County, VA Project No. 089962000</p>
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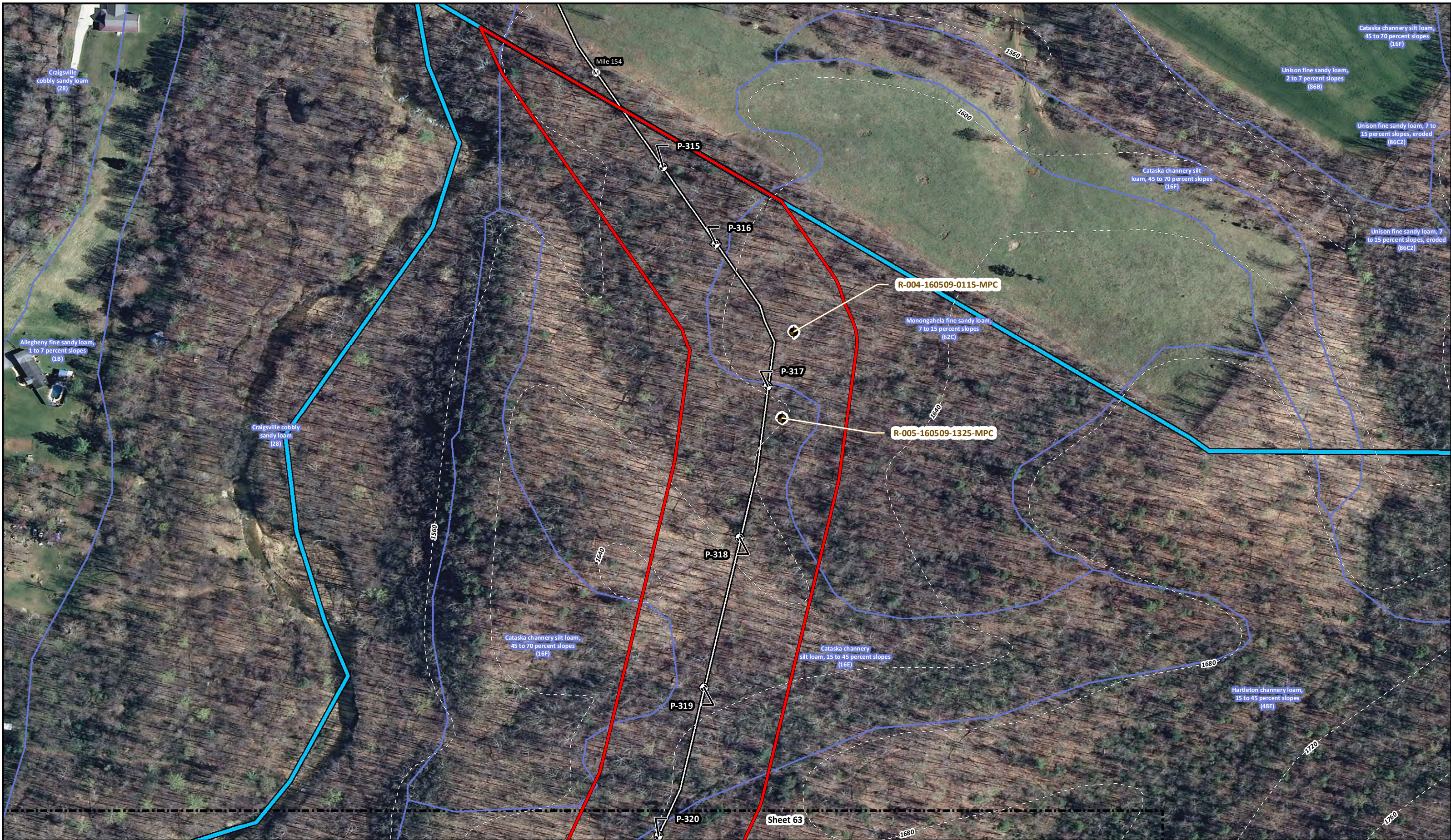


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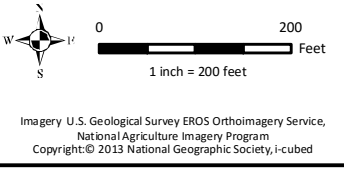
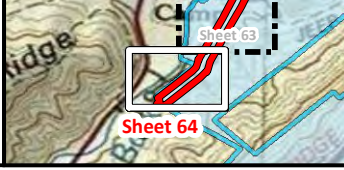


<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCS Soil Unit Boundary Grid Sheet 			<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016</p>	<p>Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 62 of 64 Augusta County, VA Project No. 089962000</p>
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<ul style="list-style-type: none"> Soil Test Pit Proposed Pit Location Transect Location Mile Post 	<ul style="list-style-type: none"> Approximate Property Marker Depression Rock Outcrop Spring 	<ul style="list-style-type: none"> Centerline Alignment (Rev-10 & Rev-11) Elevation Contour (40' Interval) Revised Area of Investigation Road 	<ul style="list-style-type: none"> Area of Investigation Soil Unit Boundary (ID Key in Attachment 6) George Washington National Forest Monongahela National Forest 	<ul style="list-style-type: none"> NRCs Soil Unit Boundary Grid Sheet 			<p>Geosyntec consultants RETTEW</p> <p>Rev. 7/29/2016</p>	<p>Drawn By: john.deloretta</p>	<p>Geosyntec Consultants Atlantic Coast Pipeline Order 1 Soil Survey Soil Survey Sheet 63 of 64 Augusta County, VA Project No. 089962000</p>
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Attachment 2
Soil Observations Inventory

Attachment 2
Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
R-001-160509-1000-mpc	37.952402	-78.954518	5/9/2016	
R-002-160509-1015-mpc	37.952468	-78.954284	5/9/2016	
R-003-160509-1030-mpc	37.951977	-78.954424	5/9/2016	
R-004-160509-0115-mpc	37.957884	-78.952517	5/9/2016	
R-005-160509-1325-mpc	37.957340	-78.952591	5/9/2016	
R-006-160509-1440-mpc	37.954487	-78.953386	5/9/2016	
R-007-160509-1550-mpc	37.945590	-78.959757	5/9/2016	
R-008-160510-0905-mpc	38.279748	-79.305059	5/10/2016	
R-009-160510-0915-mpc	38.279512	-79.304987	5/10/2016	
R-010-160510-0925-mpc	38.279999	-79.305316	5/10/2016	
R-011-160510-0935-mpc	38.279388	-79.304916	5/10/2016	
R-012-160510-1445-mpc	38.289136	-79.189663	5/10/2016	
R-013-160510-1505-mpc	38.288686	-79.189174	5/10/2016	
R-014-160510-1530-mpc	38.289414	-79.190581	5/10/2016	
R-015-160511-0900-mpc	38.283984	-79.286735	5/11/2016	
R-016-160511-0910-mpc	38.284186	-79.285399	5/11/2016	
R-017-160511-1000-mpc	38.284035	-79.286044	5/11/2016	
R-018-160511-1145-mpc	38.283946	-79.288671	5/11/2016	
R-019-160512-1020-mpc	38.296192	-79.830505	5/12/2016	
R-020-160512-1040-mpc	38.296406	-79.830902	5/12/2016	
R-021-160512-1110-mpc	38.295833	-79.831598	5/12/2016	
R-022-160512-1155-mpc	38.295735	-79.832066	5/12/2016	
R-023-160512-1310-mpc	38.301294	-79.843867	5/12/2016	
R-024-160512-1320-mpc	38.301157	-79.844462	5/12/2016	
R-025-160512-1420-mpc	38.301275	-79.844862	5/12/2016	
R-026-160513-1000-mpc	38.303793	-79.876557	5/13/2016	
R-027-160513-1000-mpc	38.303200	-79.875676	5/13/2016	
R-028-160513-1210-mpc	38.307172	-79.880959	5/13/2016	
R-029-160513-1300-mpc	38.306252	-79.879547	5/13/2016	
P-001-160620-1005-rll	38.356501	-80.044239	6/20/2016	
P-002-160620-1020-rll	38.355709	-80.043621	6/20/2016	
P-003-160620-1025-rll	38.354937	-80.042923	6/20/2016	
P-004-160620-1035-rll	38.354360	-80.041709	6/20/2016	
P-005-160620-1425-rll	38.353575	-80.040974	6/20/2016	
P-006-160620-1509-dat	38.352888	-80.040474	6/20/2016	
P-007-160620-1245-dat	38.352047	-80.039620	6/20/2016	
P-008-160620-1057-dat	38.351315	-80.038940	6/20/2016	
P-009-160620-145-mgw	38.350353	-80.038561	6/20/2016	
P-010-160620-1315-mgw	38.349737	-80.037498	6/20/2016	
P-011-160620-1140-mgw	38.348694	-80.037833	6/20/2016	
P-012-160620-1115-mgw	38.347671	-80.037546	6/20/2016	
P-013			Eliminated	
P-014			Eliminated	
P-015			Eliminated	
P-016			Eliminated	

Attachment 2
Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-017			Eliminated	
P-018			Eliminated	
P-019			Eliminated	
P-020			Eliminated	
P-021			Eliminated	
P-022-160614-1050-jsw	38.308305	-79.882894	6/14/2016	
P-023-160614-1150-jsw	38.308021	-79.882344	6/14/2016	
P-024-160614-1440-jsw	38.307729	-79.881422	6/14/2016	
P-025				R-028
P-026				R-029
P-027-160617-0942-jcr	38.305168	-79.877995	6/17/2016	
P-028-160617-1100-jcr	38.304291	-79.877313	6/17/2016	
P-029				R-026
P-030				R-027
P-031-160615-1222-jsw	38.300029	-79.867333	6/15/2016	
P-032-160615-1215-jsw	38.299576	-79.866134	6/15/2016	
P-033-160615-1041-jsw	38.299787	-79.865002	6/15/2016	
P-034-160615-1019-jsw	38.300281	-79.863904	6/15/2016	
P-035-160615-1011-jsw	38.301076	-79.862377	6/15/2016	
P-036-160615-1557-jcr	38.301716	-79.862823	6/15/2016	
P-037-160615-1532-jcr	38.302059	-79.861940	6/15/2016	
P-038-160615-1455-jcr	38.302295	-79.860710	6/15/2016	
P-039-160615-1344-jcr	38.302321	-79.859367	6/15/2016	
P-040-160615-1119-jcr	38.302491	-79.857884	6/15/2016	
P-041-160614-1453-jcr	38.302854	-79.856950	6/14/2016	
P-042-160614-1355-jcr	38.302362	-79.855830	6/14/2016	
P-043-160614-1317-jcr	38.302576	-79.854569	6/14/2016	
P-044-160614-1214-jcr	38.302101	-79.854101	6/14/2016	
P-045-160614-1019-jcr	38.301872	-79.852437	6/14/2016	
P-046-160614-1050-def	38.301691	-79.850540	6/14/2016	
P-047-160614-1045-def	38.301775	-79.849432	6/14/2016	
P-048-160614-1035-def	38.301967	-79.848513	6/14/2016	
P-049-160614-1025-def	38.301882	-79.847368	6/14/2016	
P-050-160614-1015-def	38.301561	-79.846265	6/14/2016	
P-051				R-025
P-052				R-023, R-024
P-053-160613-1105-rll	38.300312	-79.842855	6/13/2016	
P-053A-160613-1422-rll	38.300447	-79.842245	6/13/2016	
P-054-160613-1055-rll	38.300134	-79.841903	6/13/2016	
P-055-160613-1110-rll	38.300020	-79.841065	6/13/2016	
P-056-160613-1117-rll	38.299526	-79.839981	6/13/2016	
P-057-160613-1041-jdf	38.298813	-79.839357	6/13/2016	
P-058-160613-1057-jdf	38.297772	-79.838768	6/13/2016	
P-059-160613-1107-jdf	38.296796	-79.837805	6/13/2016	
P-060-160613-1555-rll	38.296698	-79.836665	6/13/2016	

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Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-061-160614-1000-rl	38.295846	-79.836047	6/14/2016	
P-062-160614-1005-rl	38.295981	-79.834770	6/14/2016	
P-063-160614-0950-rl	38.295626	-79.834086	6/14/2016	
P-064-160614-1020-rl	38.295890	-79.832618	6/14/2016	R-022
P-065				R-019, R-020, R-021
P-066-160614-1040-rl	38.296401	-79.829655	6/14/2016	
P-067-160614-1441-sdd	38.297210	-79.828987	6/14/2016	
P-068-160614-1338-sdd	38.297316	-79.828113	6/14/2016	
P-069-160614-1158-sdd	38.298404	-79.827744	6/14/2016	
P-070-160614-1102-sdd	38.298595	-79.825943	6/14/2016	
P-071-160614-1001-sdd	38.298923	-79.824980	6/14/2016	
P-072-160616-1447-sdd	38.299743	-79.824200	6/16/2016	
P-073-160616-1402-sdd	38.300615	-79.823901	6/16/2016	
P-074-160616-1238-sdd	38.301802	-79.823552	6/16/2016	
P-075-160616-1140-sdd	38.302403	-79.823165	6/16/2016	
P-076-160616-1055-sdd	38.303121	-79.822682	6/16/2016	
P-077-160617-1035-sdd	38.303800	-79.821430	6/17/2016	
P-078-160617-1201-sdd	38.304679	-79.821019	6/17/2016	
P-079-160617-1251-sdd	38.304881	-79.820072	6/17/2016	
P-080-160617-1000-def	38.305791	-79.818303	6/17/2016	
P-081-160617-1010-def	38.306183	-79.817589	6/17/2016	
P-082-160617-1020-jsw	38.306462	-79.816438	6/17/2016	
P-083-160617-1011-jsw	38.306022	-79.815850	6/17/2016	
P-084-160617-1005-jsw	38.304966	-79.815119	6/17/2016	
P-085-160616-1039-jcr	38.304130	-79.814666	6/16/2016	
P-086-160616-1149-jcr	38.303356	-79.812749	6/16/2016	
P-087-160616-1316-jcr	38.303904	-79.812843	6/16/2016	
P-088-160616-1506-jcr	38.304539	-79.811462	6/16/2016	
P-089-160616-1550-jcr	38.304925	-79.810648	6/16/2016	
P-090-160609-1005-sdd	38.304932	-79.809975	6/9/2016	
P-091-160609-1223-sdd	38.304710	-79.809071	6/9/2016	
P-092-160609-1432-sdd	38.304543	-79.808024	6/9/2016	
P-093-160609-1531-sdd	38.303955	-79.806488	6/9/2016	
P-094-160609-1541-dat	38.303520	-79.805660	6/9/2016	
P-095-160609-1357-dat	38.303646	-79.804292	6/9/2016	
P-096-160609-1223-dat	38.303490	-79.803135	6/9/2016	
P-097-160609-1039-dat	38.303173	-79.802250	6/9/2016	
P-098-160609-1040-def	38.303263	-79.800705	6/9/2016	
P-099-160609-1055-def	38.302560	-79.799324	6/9/2016	
P-100-160609-1105-def	38.301881	-79.799103	6/9/2016	
P-101-160609-1115-def	38.301743	-79.798020	6/9/2016	
P-101A-160609-1605-def	38.301883	-79.798245	6/9/2016	
P-102-160613-1106-jsw	38.301912	-79.796503	6/13/2016	
P-103-160613-1111-jsw	38.302013	-79.795278	6/13/2016	
P-104-160613-1400-jsw	38.302846	-79.794265	6/13/2016	

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Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-105-160613-1415-jsw	38.301947	-79.793243	6/13/2016	
P-106-160613-1411-jsw	38.301428	-79.792558	6/13/2016	
P-107-160613-1053-sdd	38.301596	-79.790871	6/13/2016	
P-108-160613-1217-sdd	38.301164	-79.790080	6/13/2016	
P-109-160613-1321-sdd	38.301313	-79.788595	6/13/2016	
P-110-160613-1503-sdd	38.301180	-79.787215	6/13/2016	
P-111-160613-1602-sdd	38.301737	-79.786555	6/13/2016	
P-112-160613-1505-jcr	38.302278	-79.785411	6/13/2016	
P-113-160613-1438-jcr	38.302772	-79.784282	6/13/2016	
P-114-160613-1325-jcr	38.303191	-79.783030	6/13/2016	
P-115-160613-1227-jcr	38.303665	-79.781869	6/13/2016	
P-116-160613-1016-jcr	38.303954	-79.781126	6/13/2016	
P-117-160616-1420-mgw	38.304416	-79.780106	6/16/2016	
P-118-160616-1030-mgw	38.304769	-79.778798	6/16/2016	
P-119-160616-1020-mgw	38.304975	-79.777492	6/16/2016	
P-120-160616-1010-mgw	38.305259	-79.776261	6/16/2016	
P-120A-160616-1225-mgw	38.305358	-79.775975	6/16/2016	
P-121-160616-0950-mgw	38.305537	-79.775429	6/16/2016	
P-122-160616-1000-mgw	38.305828	-79.774158	6/16/2016	
P-123-160615-1625-mgw	38.306251	-79.772983	6/15/2016	
P-124-160615-1346-mgw	38.306738	-79.771987	6/15/2016	
P-125-160615-1340-mgw	38.307228	-79.770957	6/15/2016	
P-126-160615-1410-mgw	38.307707	-79.769788	6/15/2016	
P-127-160615-1110-mgw	38.307661	-79.768563	6/15/2016	
P-128-160615-1050-mgw	38.307875	-79.767364	6/15/2016	
P-129-160615-1045-rll	38.307498	-79.766538	6/15/2016	
P-130-160615-1050-rll	38.306802	-79.765543	6/15/2016	
P-131-160615-1100-rll	38.306366	-79.764290	6/15/2016	
P-132-160615-1110-rll	38.305352	-79.763448	6/15/2016	
P-133-160615-1115-rll	38.304630	-79.763271	6/15/2016	
P-134-160615-1506-sdd	38.303683	-79.762344	6/15/2016	
P-135-160615-1321-sdd	38.302842	-79.762407	6/15/2016	
P-136-160615-1239-sdd	38.302162	-79.761538	6/15/2016	
P-137-160615-1152-sdd	38.301221	-79.760986	6/15/2016	
P-138-160616-1219-def	38.300331	-79.760636	6/16/2016	
P-139-160616-1226-def	38.299345	-79.759903	6/16/2016	
P-139A-160616-1341-def	38.299328	-79.760135	6/16/2016	
P-140-160616-1231-def	38.298694	-79.759614	6/16/2016	
P-141-160616-1235-def	38.297724	-79.759077	6/16/2016	
P-142-160616-1240-def	38.296871	-79.758657	6/16/2016	
P-143-160616-1735-def	38.296291	-79.757992	6/16/2016	
P-144-160616-1200-jsw	38.295255	-79.757351	6/16/2016	
P-145-160616-1145-jsw	38.294754	-79.756263	6/16/2016	
P-146-160616-1127-jsw	38.294025	-79.755464	6/16/2016	
P-147-160616-1059-jsw	38.293524	-79.754110	6/16/2016	

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Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-148-160616-1044-jsw	38.292790	-79.753546	6/16/2016	
P-149-160616-1033-jsw	38.292573	-79.752445	6/16/2016	
P-150-160616-1024-jsw	38.291644	-79.751414	6/16/2016	
P-151-160606-1107-sdd	38.183683	-79.679407	6/6/2016	
P-152-160606-1251-sdd	38.183459	-79.678916	6/6/2016	
P-153-160606-1408-sdd	38.182786	-79.677620	6/6/2016	
P-154-160606-1619-sdd	38.181973	-79.677315	6/6/2016	
P-155-160606-1110-dat	38.181152	-79.676595	6/6/2016	
P-156-160606-1355-dat	38.180541	-79.675798	6/6/2016	
P-157-160606-1512-dat	38.179647	-79.674959	6/6/2016	
P-158-160606-1717-jsw	38.178948	-79.674212	6/6/2016	
P-159-160606-1400-jsw	38.178370	-79.673304	6/6/2016	
P-160-160606-1210-jsw	38.177874	-79.672192	6/6/2016	
P-161-160606-1130-jsw	38.177421	-79.671198	6/6/2016	
P-162-160606-1040-jsw	38.177136	-79.670363	6/6/2016	
P-163-160620-1126-jsw	38.154679	-79.633820	6/20/2016	
P-164-160620-1117-jsw	38.154476	-79.632648	6/20/2016	
P-165-160620-1112-jsw	38.154131	-79.631737	6/20/2016	
P-166-160620-1107-jsw	38.153580	-79.631036	6/20/2016	
P-167-160620-1037-jsw	38.152868	-79.630613	6/20/2016	
P-168			ELIMINATED	
P-169			ELIMINATED	
P-170-160620-1122-def	38.149840	-79.628376	6/20/2016	
P-171-160620-1045-def	38.149148	-79.628350	6/20/2016	
P-172-160620-1117-def	38.148558	-79.628504	6/20/2016	
P-173-160620-1112-def	38.147356	-79.628614	6/20/2016	
P-174-160621-1145-rll	38.139431	-79.631647	6/21/2016	
P-175-160621-1150-rll	38.138955	-79.631418	6/21/2016	
P-176-160621-1155-rll	38.138033	-79.631086	6/21/2016	
P-177-160622-1027-jsw	38.137256	-79.630996	6/22/2016	
P-178-160621-1157-dat	38.136317	-79.630442	6/21/2016	
P-179-160621-1215-jsw	38.135952	-79.629530	6/22/2016	
P-180-160621-1252-jsw	38.135322	-79.628636	6/22/2016	
P-181-160621-1300-jsw	38.134756	-79.627370	6/22/2016	
P-182-160621-1310-jsw	38.134326	-79.626355	6/22/2016	
P-183-160621-1318-jsw	38.134258	-79.625168	6/22/2016	
P-184-160607-0950-jsw	38.111557	-79.590096	6/7/2016	
P-185-160607-1034-jsw	38.111175	-79.589628	6/7/2016	
P-185A-160607-1234-jsw	38.110747	-79.589117	6/7/2016	
P-186-160607-1245-jsw	38.110555	-79.588470	6/7/2016	
P-187-160607-1427-jsw	38.110228	-79.586822	6/7/2016	
P-188-160607-0932-sdd	38.110543	-79.586114	6/7/2016	
P-189-160607-1143-sdd	38.109860	-79.584697	6/7/2016	
P-190-160607-1315-sdd	38.109638	-79.584142	6/7/2016	
P-191-160607-1459-sdd	38.108878	-79.583731	6/7/2016	

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Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-192-160607-1631-sdd	38.107756	-79.581089	6/7/2016	
P-193-160607-1620-jsw	38.107313	-79.580714	6/7/2016	
P-194			ELIMINATED	
P-195-160608-1325-sdd	38.141670	-79.478032	6/8/2016	
P-196-160608-1157-sdd	38.142017	-79.477453	6/8/2016	
P-197-160608-1047-sdd	38.143185	-79.475973	6/8/2016	
P-198			ELIMINATED	
P-199-160608-0856-sdd	38.143720	-79.475219	6/8/2016	
P-200-160603-1426-sdd	38.151819	-79.470534	6/3/2016	
P-201-160603-1326-jsw	38.152239	-79.469819	6/3/2016	
P-202-160603-1339-sdd	38.153102	-79.469224	6/3/2016	
P-203-160603-1129-sdd	38.154100	-79.468563	6/3/2016	
P-204-160603-0939-sdd	38.154585	-79.467851	6/3/2016	
P-205-160603-1155-jsw	38.155379	-79.467208	6/3/2016	
P-206-160603-0930-jsw	38.156056	-79.465978	6/3/2016	
P-207-160602-1508-jsw	38.156590	-79.465207	6/2/2016	
P-208-160603-0837-sdd	38.157474	-79.464640	6/2/2016	
P-209-160602-1356-sdd	38.157961	-79.463613	6/2/2016	
P-210-160602-1332-sdd	38.158852	-79.463050	6/2/2016	
P-211-160602-1149-sdd	38.159383	-79.461849	6/2/2016	
P-212-160602-1002-sdd	38.160149	-79.461016	6/2/2016	
P-212A-160602-1109-sdd	38.160343	-79.461274	6/2/2016	
P-213-160602-1236-jsw	38.160954	-79.460202	6/2/2016	
P-214-160602-1118-jsw	38.161666	-79.459583	6/2/2016	
P-215-160602-1037-jsw	38.162148	-79.458908	6/2/2016	
P-216-160608-1140-dat	38.242245	-79.347224	6/8/2016	
P-216A-160608-1320-dat	38.241688	-79.347391	6/8/2016	
P-216B-160608-1414-dat	38.241282	-79.347673	6/8/2016	
P-217-160608-0823-dat	38.242821	-79.346816	6/8/2016	
P-218-160608-1010-dat	38.246401	-79.344657	6/8/2016	
P-219-160607-1430-dat	38.280821	-79.309080	6/7/2016	
P-220-160607-1336-dat	38.280548	-79.308365	6/7/2016	
P-221-160607-1223-dat	38.280330	-79.307704	6/7/2016	
P-222-160607-1055-dat	38.279848	-79.306398	6/7/2016	
P-223-160607-0910-dat	38.279581	-79.304450	6/7/2016	R-008, R-009, R-010, R-011
P-224-160608-1315-sdd	38.280365	-79.299385	6/8/2016	
P-225-160601-1130-mel	38.281239	-79.293194	6/1/2016	
P-225A-160601-1130-jcr	38.281018	-79.292845	6/1/2016	
P-225B-160601-1312-sdd	38.281602	-79.292648	6/1/2016	
P-226-160601-1400-dat	38.281904	-79.292469	6/1/2016	
P-227-160601-1500-jsw	38.283042	-79.291111	6/1/2016	
P-228-160610-0907-def	38.283668	-79.290732	6/10/2016	
P-229-160610-0900-def	38.283719	-79.289602	6/10/2016	
P-230				R-018
P-230A-160610-0855-def	38.283847	-79.288044	6/10/2016	

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Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-231-160610-1130-def	38.283993	-79.287246	6/10/2016	R-015
P-232				R-016, R-017
P-233-160607-1000-mel	38.284343	-79.284399	6/7/2016	
P-234-160607-1045-mel	38.284895	-79.283650	6/7/2016	
P-235-160607-1135-mel	38.285581	-79.282999	6/7/2016	
P-236-160607-1535-mel	38.286188	-79.282289	6/7/2016	
P-237-160607-1240-mel	38.286102	-79.281037	6/7/2016	
P-238-160607-1355-mel	38.286893	-79.279988	6/7/2016	
P-239-160607-1427-def	38.287576	-79.278765	6/7/2016	
P-239A-160607-1430-def	38.287305	-79.278585	6/7/2016	
P-240-160607-0932-def	38.287742	-79.277544	6/7/2016	
P-241-160607-0926-def	38.288566	-79.276686	6/7/2016	
P-241A-160607-0940-def	38.288418	-79.276402	6/7/2016	
P-242-160607-0920-def	38.289296	-79.275998	6/7/2016	
P-243-160607-0900-def	38.289838	-79.275148	6/7/2016	
P-244-160607-0910-def	38.290355	-79.274278	6/7/2016	
P-245-160608-0855-def	38.290801	-79.273381	6/8/2016	
P-246-160608-0900-def	38.291003	-79.272386	6/8/2016	
P-247-160608-0912-def	38.291122	-79.270842	6/8/2016	
P-248-160608-0920-def	38.290830	-79.269737	6/8/2016	
P-249-160608-0923-def	38.290328	-79.268588	6/8/2016	
P-250-160608-1320-mel	38.290641	-79.267628	6/8/2016	
P-251-160608-1230-mel	38.290178	-79.266138	6/8/2016	
P-252-160608-1452-mel	38.290651	-79.264931	6/8/2016	
P-253-160608-0950-mel	38.290721	-79.263507	6/8/2016	
P-254-160608-1050-mel	38.290133	-79.262958	6/8/2016	
P-255-160608-0850-jsw	38.289224	-79.262164	6/8/2016	
P-256-160608-0925-jsw	38.288604	-79.261690	6/8/2016	
P-257-160608-1040-jsw	38.288602	-79.260322	6/8/2016	
P-258-160608-1051-jsw	38.287831	-79.259675	6/8/2016	
P-259-160608-1305-jsw	38.287771	-79.258457	6/8/2016	
P-260-160609-0845-jsw	38.287743	-79.256761	6/9/2016	
P-261-160609-0920-jsw	38.288164	-79.255843	6/9/2016	
P-262-160609-1134-jsw	38.287642	-79.254649	6/9/2016	
P-263-160609-1334-jsw	38.288496	-79.253538	6/9/2016	
P-264-160609-1425-jsw	38.289228	-79.252679	6/9/2016	
P-265-160609-1040-mel	38.289219	-79.251504	6/9/2016	
P-266-160609-0950-mel	38.289508	-79.250368	6/9/2016	
P-267-160609-1205-mel	38.289483	-79.248929	6/9/2016	
P-268-160609-1430-mel	38.290636	-79.248170	6/9/2016	
P-269-160609-1320-mel	38.290426	-79.247004	6/9/2016	
P-270-160610-0915-mel	38.290637	-79.245661	6/10/2016	
P-271-160610-1105-mel	38.290891	-79.245104	6/10/2016	
P-272-160610-1210-mel	38.290983	-79.243830	6/10/2016	
P-273-160610-1300-mel	38.290616	-79.242804	6/10/2016	

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Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-274-160610-1210-jsw	38.291243	-79.241377	6/10/2016	
P-275-160610-1046-jsw	38.291315	-79.239676	6/10/2016	
P-276-160610-0838-jsw	38.291532	-79.238764	6/10/2016	
P-277-160610-0841-sdd	38.291639	-79.237981	6/10/2016	
P-278-160610-1143-sdd	38.291598	-79.236495	6/10/2016	
P-279-160610-1359-dat	38.292196	-79.234639	6/10/2016	
P-279A-160610-1450-def	38.292143	-79.234401	6/10/2016	
P-279B-160610-1249-sdd	38.291880	-79.235650	6/10/2016	
P-280-160610-1308-dat	38.291896	-79.233904	6/10/2016	
P-281-160610-1144-dat	38.291712	-79.232895	6/10/2016	
P-282-160610-0839-dat	38.291551	-79.231995	6/10/2016	
P-283-160606-0743-def	38.289434	-79.222291	6/6/2016	
P-284-160606-0748-def	38.289181	-79.221479	6/6/2016	
P-285-160606-0757-def	38.288924	-79.220230	6/6/2016	
P-286-160606-0808-def	38.288608	-79.219344	6/6/2016	
P-287-160606-0825-def	38.288695	-79.217843	6/6/2016	
P-288-160606-1433-def	38.288990	-79.216718	6/6/2016	
P-289-160606-1540-mel	38.289464	-79.215648	6/6/2016	
P-290-160606-1445-mel	38.289130	-79.214670	6/6/2016	
P-291-160606-1330-mel	38.288774	-79.213757	6/6/2016	
P-292-160606-1230-mel	38.288718	-79.212416	6/6/2016	
P-293-160606-1056-mel	38.289242	-79.211297	6/6/2016	
P-294-160606-0905-mel	38.289004	-79.209886	6/6/2016	
P-295-160603-1335-mel	38.289863	-79.209012	6/3/2016	
P-296-160603-1245-def	38.289470	-79.207684	6/3/2016	
P-297-160603-1153-mel	38.290183	-79.206863	6/3/2016	
P-298-160603-1000-def	38.290656	-79.205743	6/3/2016	
P-299-160603-0820-def	38.291060	-79.204206	6/3/2016	
P-300-160603-1123-jcr	38.291395	-79.203183	6/3/2016	
P-301-160603-1326-jcr	38.291485	-79.202405	6/3/2016	
P-302-160603-1115-mgw	38.292043	-79.201272	6/3/2016	
P-303-160603-0830-mgw	38.291839	-79.199702	6/3/2016	
P-303A-160603-0920-mgw	38.292236	-79.200343	6/3/2016	
P-304-160603-0815-mgw	38.291682	-79.198304	6/3/2016	
P-305-160602-1145-def	38.291984	-79.197999	6/2/2016	
P-306-160602-1100-mgw	38.291272	-79.196179	6/2/2016	
P-307-160602-1045-def	38.291128	-79.195313	6/2/2016	
P-308-160602-1231-jcr	38.291442	-79.194554	6/2/2016	
P-308A-160602-1343-jcr	38.291120	-79.194128	6/2/2016	
P-309-160602-1449-jcr	38.290843	-79.193369	6/2/2016	
P-310-160603-0835-jcr	38.290284	-79.191247	6/3/2016	
P-311-160602-1600-mel	38.289921	-79.190856	6/2/2016	
P-312-160602-1509-mel	38.289782	-79.190016	6/2/2016	R-012, R-014
P-313				R-013
P-314-160602-1115-mel	38.288569	-79.187940	6/2/2016	

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Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
P-315			HOLD	
P-316			HOLD	
P-317			HOLD	R-004, R-005
P-318			HOLD	
P-319			HOLD	
P-320			HOLD	R-006
P-321			HOLD	
P-322			HOLD	
P-323			HOLD	R-001, R-002, R-003
P-324			HOLD	
P-325			HOLD	
P-326			HOLD	
P-327			HOLD	
P-328			HOLD	
P-329			HOLD	
P-330			HOLD	
P-331			HOLD	R-007
P-332			HOLD	
P-333-160621-1327-jsw	38.134099	-79.624202	6/21/2016	
P-334-160622-1115-rl	38.133787	-79.600482	6/22/2016	
P-335-160622-1110-rl	38.133387	-79.600439	6/22/2016	
P-336-160622-1100-rl	38.132649	-79.600029	6/22/2016	
P-337-160622-1055-rl	38.131961	-79.599479	6/22/2016	
P-338-160622-1045-rl	38.130824	-79.599429	6/22/2016	
P-339-160622-1035-rl	38.130144	-79.598737	6/22/2016	
P-340-160622-1600-mgw	38.129192	-79.598785	6/22/2016	
P-341-160622-1525-def	38.128289	-79.598359	6/22/2016	
P-342-160622-1040-mgw	38.127330	-79.598883	6/22/2016	
P-343-160622-1130-mgw	38.126220	-79.599181	6/22/2016	
P-344-160622-1030-mgw	38.125401	-79.598632	6/22/2016	
P-345-160622-1025-mgw	38.124390	-79.597855	6/22/2016	
P-346-160622-1020-mgw	38.123980	-79.597409	6/22/2016	
P-347-160621-1409-def	38.122945	-79.596885	6/21/2016	
P-348-160621-1115-mgw	38.122555	-79.596105	6/21/2016	
P-349-160621-1215-mgw	38.121246	-79.596789	6/21/2016	
P-350-160621-1205-def	38.120324	-79.597078	6/21/2016	
P-351-160621-1140-def	38.119285	-79.597009	6/21/2016	
P-352-160621-1145-def	38.118626	-79.597265	6/22/2016	
P-352A-160621-1147-mgw	38.118600	-79.597471	6/21/2016	
P-353-160622-1050-def	38.117620	-79.598270	6/22/2016	
P-353A-160622-1035-def	38.116438	-79.597667	6/22/2016	
T-007A-160620-1420-dat	38.351790	-80.039307	6/20/2016	
T-007B-160620-1418-dat	38.351932	-80.039434	6/20/2016	
T-025A-160614-1455-jsw	38.306534	-79.880420	6/14/2016	
T-027A-160617-1116-jcr	38.304648	-79.877692	6/17/2016	

Attachment 2
Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
T-029A-160617-1219-jcr	38.303475	-79.876365	6/17/2016	
T-042A-160614-1441-jcr	38.302438	-79.855259	6/14/2016	
T-045A-160614-1201-jcr	38.302165	-79.853619	6/14/2016	
T-047A-160614-1555-def	38.301663	-79.849385	6/14/2016	
T-049A-160614-1410-def	38.301708	-79.847471	6/14/2016	
T-049B-160614-1420-def	38.301847	-79.847588	6/14/2016	
T-055A-160613-1115-rll	38.299785	-79.840669	6/13/2016	
T-067A-160614-1552-sdd	38.296812	-79.828580	6/14/2016	
T-071A-160614-1618-sdd	38.299288	-79.825090	6/14/2016	
T-073A-160616-1645-sdd	38.301188	-79.823528	6/16/2016	
T-075A-160616-1614-sdd	38.302380	-79.822906	6/16/2016	
T-076A-160616-1628-sdd	38.302653	-79.822890	6/16/2016	
T-079A-160617-1341-sdd	38.304856	-79.819850	6/17/2016	
T-093A-160609-1556-sdd	38.303851	-79.806609	6/9/2016	
T-103A-160613-1328-jsw	38.302138	-79.795361	6/13/2016	
T-103B-160613-1329-jsw	38.302055	-79.795382	6/13/2016	
T-112A-160613-1645-jcr	38.301960	-79.785899	6/13/2016	
T-114A-160613-1427-jcr	38.302996	-79.783457	6/13/2016	
T-121A-160616-1200-mgw	38.305766	-79.774953	6/16/2016	
T-135A-160615-1341-sdd	38.303013	-79.762053	6/15/2016	
T-151A-160606-1157-sdd	38.183901	-79.679547	6/6/2016	
T-157A-160606-1711-dat	38.179644	-79.675105	6/6/2016	
T-187A-160607-1436-jsw	38.110206	-79.588161	6/7/2016	
T-189A-160607-1112-sdd	38.110365	-79.584878	6/7/2016	
T-191B-160607-1533-sdd	38.108956	-79.583938	6/7/2016	
T-191A-160607-1611-sdd	38.108844	-79.583182	6/7/2016	
T-203A-160603-1137-sdd	38.154003	-79.468482	6/3/2016	
T-226A-160601-1419-sdd	38.282124	-79.292246	6/1/2016	
T-226B-160601-1445-sdd	38.282625	-79.291802	6/1/2016	
T-238A-160607-1505-mel	38.287227	-79.279211	6/7/2016	
T-239A-160607-1650-def	38.287205	-79.278339	6/7/2016	
T-247A-160608-1347-def	38.291108	-79.271139	6/8/2016	
T-247B-160608-1358-def	38.290970	-79.270993	6/8/2016	
T-247C-160608-1404-def	38.291003	-79.270921	6/8/2016	
T-250A-160608-1426-mel	38.290991	-79.267244	6/8/2016	
T-253A-160608-1150-mel	38.290995	-79.264193	6/8/2016	
T-256A-160608-0945-jsw	38.288497	-79.261770	6/8/2016	
T-258A-160608-1257-jsw	38.288307	-79.259385	6/8/2016	
T-266A-160609-1525-mel	38.289297	-79.250405	6/9/2016	
T-269A-160609-1405-mel	38.290380	-79.247260	6/9/2016	
T-277A-160610-1106-sdd	38.291589	-79.237381	6/10/2016	
T-283A-160606-1358-def	38.289400	-79.222592	6/6/2016	
T-285A-160606-1233-def	38.288563	-79.221072	6/6/2016	
T-291A-160606-1625-mel	38.288597	-79.213567	6/6/2016	
T-291B-160606-1636-mel	38.289028	-79.214161	6/6/2016	

Attachment 2
Soil Observations Inventory

Pit ID	Latitude	Longitude	Date Completed	Recon Pit ID in Proximity to Proposed Pit Location
T-293A-160606-1037-mel	38.288973	-79.210733	6/6/2016	
T-293B-160606-1122-mel	38.289153	-79.211634	6/6/2016	
T-296A-160606-0849-mel	38.289613	-79.207417	6/6/2016	
T-299A-160603-1040-mel	38.290746	-79.204736	6/3/2016	
T-301A-160603-1350-mgw	38.291223	-79.202085	6/3/2016	
T-307A-160602-1430-mgw	38.291279	-79.195668	6/2/2016	
T-309B-160602-1125-jcr	38.290835	-79.192989	6/2/2016	
T-309A-160602-1125-jcr	38.291262	-79.193677	6/2/2016	
T-310A-160602-1532-jcr	38.290482	-79.193216	6/2/2016	
T-310C-160603-0938-jcr	38.290244	-79.192000	6/3/2016	
T-310B-160603-0937-jcr	38.290259	-79.192630	6/3/2016	
T-311A-160603-0837-mel	38.289849	-79.190920	6/3/2016	
T-311B-160603-0857-mel	38.289825	-79.190578	6/3/2016	
T-312A-160602-1412-mel	38.289085	-79.189597	6/2/2016	
T-345A-160622-1420-mgw	38.124758	-79.597462	6/22/2016	
T-353A-160622-1057-def	38.118251	-79.597487	6/22/2016	

Attachment 3
Reconnaissance Soil Test Pit Logs

TEST PIT DESCRIPTION

Soil Scientist: Dan Fenstermaker Signature: Barry Fenstermaker
 Field Assistant: Mike Callahan, Dr. Galbraith, Steve Carpenter, Charles

RETTEW Associates, Inc.
 3020 Columbia Avenue
 Lancaster, PA 17603
 Phone: 717-394-3721
 Fax: 717-394-1063

Test Pit ID: R-160509-1000-MC-1 R-001-160509-1000-MPC
 Date: 5/9/16
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: Leu2 (59E)
 Soil Series: Leu bouldery silt loam, 10-45% slopes
 USDA
 Topographic Position: Shoulder nose slope
 % Slope / Aspect: 14:1
 Drainage Class: Wall
 Depth to Refusal: 50"
 Bedrock Type and Dip Slope: N/A
 Mineralogy: Mixed

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
A	0-1.5	7.5YR 2.5/1	-	-	sil	17	10	PS 90	1vF sht	Vfr	CW	-	-	few sun layer stones
BE	1.5-7.5	10YR 5/3	-	-	sil	11	10	PS 30	1f sht	R	C/W	-	-	
BE1	7.5-15	10YR 6/4	9r 8%	2.10	sil	12	14	PS 30	2f sht	fr	C/S	-	-	
BE2	15-26	10YR 6/4	9r 20%	0.5-2.0	sil	10	18	PS 30	2m sht	fr	C/W	-	-	
BC	26-36	10YR 5/4 2.5/1	9r 40%	0.5-2.0	sil	10	12	PS 30	1co sht	fr	C/S	-	-	
Cr	36-50+	2.5Y 6/1	cdk Hard 40%	0.5-2.0	si	5	10	PS 30	RDF	fr	-	-	-	

10YR 5/8
 Not observed
 Thin Cr/Oe present varying thickness

Clay films

Water Table? Y/N Description: _____
 Indications of slips or slope failures? Y/N Description: _____
 Special Features? Y/N Description: Peralithic, Argillic
 Dominant Vegetation: ① Chestnut oak, sourwood, ② black oak, chestnut, Red maple, Blueberry, Rhododendron
 Other Notes: Mineramic colors, paly 0

TEST PIT DESCRIPTION

Soil Scientist: John Wah
Field Assistant: Dr. John Galbraith, Mike Callahan

Signature: *[Handwritten Signature]*

[Handwritten Signature]

RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: ~~R-160509-1015-2~~ R-002-160509-1015-MPC
 Date: 5/9/14
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: ~~140~~ (S9E)
 Soil Series: Low bouldery silt loam, 10-45% slopes
 Topographic Position: F/S
 % Slope / Aspect: 49% - SWP
 Drainage Class: -
 Depth to Refusal: -
 Bedrock Type and Dip Slope: -
 Mineralogy: Mixed
 USDA: -
 Redox Feature Color: -
 Redox Feature Description: -
 Lab Sample ID: -

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
Di	0-2.0	5YR 2.5/2	ch 10%	1"	2	45	13	2	2M	FR	CS	-	-	
A	2.0-4.0	10YR 3/2	ch 10%	1"	2	45	13	2	2FSBK	FR	CS	-	-	
Bt1	4.0-12.0	10YR 4/6	ch 10%	1"	2	35	14	2	2MSBK	FR	CS	-	-	
Bt2	12.0-20.0	7.5YR 4/6	ch 10%	2"	L	45	18	SS	2MSBK	FR	CS	-	-	
Bt3	20.0-50+	7.5YR 4/6	ch 10%	3-5" < .05"	L	45	18	SS SP	1MSBK	FR	-	-	-	

Bedrock Notes: VF SS, siltstone, or loess
 Water Table? N Description: flowing in at 2.2"
 Indications of slips or slope failures? N Description:
 Special Features? N Description:
 Dominant Vegetation: Mixed deciduous - oak, sassafras, red maple, sweet gum, hickory, tulip, poplar
 Other Notes: surface channels 6"

[Handwritten notes and signatures]

TEST PIT DESCRIPTION

Soil Scientist: Dan Fenstermaker Signature: David Fenstermaker
 Field Assistant: John Galbraith Steve Carpenter, Charles

Shebets?

RETTEW Associates, Inc.
 3020 Columbia Avenue
 Lancaster, PA 17603
 Phone: 717-394-3721
 Fax: 717-394-1063

Test Pit ID: R-1100509-1030-3 R-003-160509-1030-MPC
 Date: 5/1/16
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: Lew (59E)
 Soil Series: Lew bouldery silt loam, 10-45% slopes

USDA
 Topographic Position: Footslope
 % Slope / Aspect: 15% North
 Drainage Class: Medwell
 Depth to Refusal:
 Bedrock Type and Dip Slope:
 Mineralogy: Mixed

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (Inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
A	0-2	7.5R 2.511	—	—	SL	30	12	—	1W5aK	Fc	CW	N		Few sun fired cobbles
AE	0-3.5	10.4R 411	L10i GH	L1"	SL	30	12	NP	1F5aK	Fc	BCI	N		
Bt1	3.5-9	10.1R 519	L10i gr	L1"	SL	30	20	SP	2F5aK	Fc	CS	N		
Bt2	9-26	10.4R 514	L10i EH	L1"	SL	25	23	SP	2M5bK	Fc	CS	N		very moist
Bt3	26-35	10.1R 514	L10i gr	L1"	SL	33	25	SP	2M5bK	Fc	CS	N		Kendall Co clay plus
Bt4	35-50+	15.1R 514	L10i gr	L1"	SIL	10	26	SP	2M5bK	Fc	—			Redmond Sp and soil clay plus

Bedrock Notes: Not observed thin gilde present - varying thickness

Water Table? Y/N Description: 45" seep in at depth and starts @ 34"

Indications of slips or slope failures? Y/N Description: Colluvium

Special Features? Y/N Description: Black Oak, Scarlet Oak, Red maple, Blueberry, sassafras, waterberry
 Dominant Vegetation: Black Oak, Scarlet Oak, Red maple, Blueberry, sassafras, waterberry
 Other Notes: Some American Chestnut saplings starting

TEST PIT DESCRIPTION

Soil Scientist: John Wah
 Field Assistant: Charles Delp, Stephen Carpenter

Signature: *[Handwritten Signature]*

RETTEW Associates, Inc.
 3020 Columbia Avenue
 Lancaster, PA 17603
 Phone: 717-394-3721
 Fax: 717-394-1063

Test Pit ID: ~~R-160509-0115-MPC-4~~ R-004-160509-0115-MPC

Date: 7/17/16

Job Name: Dominion - Atlantic Coast Pipeline Soil Survey

RETTEW Job #: 089962000

NRCS Soil Unit: Monongahela (62C)

Soil Series: ~~Monongahela~~ Monongahela fine sandy loam, 7-15% slopes

USDA

Bedrock Type and Dip Slope:
 Mineralogy:
 Mixed

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
Di	0-1.5	5YR 3/1	-	-	-	-	-	-	-	-	-	-	-	-
A	1.5-3	10YR 3/2	2% 2% 2%	<0.25	SL	35	10	P ₀ S ₀	2FqR	FR	cs	-	-	-
B ₁	3-10	10YR 6/6	2% 2%	<0.25	L	45	12	P ₀ S ₀	2u5qR	FR	cs	-	-	-
B ₂	10-15	2.5YR 6/6	2% 2%	0.75	LR	45	15	P ₀ S ₀	1c05qR	FR	cs	-	-	-
B ₃	15-20	5YR 5/6	40%	2	LR	45	17	P ₀ S ₀	1c05qR	FR	cs	-	-	-
B ₄	20-25	5YR 5/6	40%	2	LR	45	17	P ₀ S ₀	1c05qR	FR	cs	-	-	-

Bedrock Notes: sand, ripple, concave over region

Water Table? Y / N Description:
 Indications of slips or slope failures? Y / N Description:
 Special Features? Y / N Description:
 Dominant Vegetation:
 Other Notes:
 [Handwritten notes and signatures]

TEST PIT DESCRIPTION

Soil Scientist: Don Fensholt

Signature: [Signature]

[Signature]

RETTEW Associates, Inc.
3020 Columbia Avenue
Langhorne, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Field Assistant:

Test Pit ID: A-16-0509-1325-5-MPC R-005-160509-1325-MPC
 Date: 5/9/16
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: Calataha (16E)
 Soil Series: Cataaska channelly silt loam, 15-45% slopes

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
A	0-1	10YR 6/3	30% g	< 1/8"	Silt	40	12	NP	1W50k	FR	CW			
BE	1-8	10YR 6/3	30% g	< 1/8"	Silt	30	14	NS	1F50k	FR	CS			
BE	8-17	10YR 6/4	30% CH	1/2-1"	Silt	30	15	SP NS	1M50k	FR	CS			
BE	17-29	7.5YR 5/4	40% CH	1/2-2"	Silt	30	16	SP NS	1L50k	FR	CS			
BE	29-38	7.5YR 5/4	50% CH	1/2-2"	Silt	30	16	SP NS	1K50k	FR	CS			
BE	38-50+	10YR 6/4	30% CH	1/2-2"	L	38	12	NP NS	PM defined	FR	-			

Bedrock Notes: Not observed Thin O/A present

Water Table? Y/N Description: _____
 Indications of slips or slope failures? Y/N Description: _____
 Special Features? Y/N Description: Embolic - Parallel
 Dominant Vegetation: Chestnut oak - (Dom - Redwood) (S) Saw wood red maple, Blueberry, Blackberry
 Other Notes: Structurally black gum

TEST PIT DESCRIPTION

Soil Scientist: Mike Callahan

Signature: Sam Callahan

RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: R-160509-1440-MPC R-006-160509-1440-MPC

Date: 5/9/16

Job Name: Dominion - Atlantic Coast Pipeline Soil Survey

RETTEW Job #: 089962000

NRCS Soil Unit: Hartleton (48E)

Soil Series: Hartleton channery loam, 15-45% slopes

USDA

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
Di	0-2	R205/2	-	-	-	-	-	-	-	-	-	-	-	-
B	2-3.5	10R2/10	2	<0.5	8/10	35	12	P ₂₀ S ₂₀	1F50K	PR	as	-	-	-
B ₁	3.5-14	10R2/10	2	<0.5	8/10	35	14	P ₂₀ S ₂₀	2m50K	PR	es	-	-	-
B ₂	14-21	10R2/10	5	<0.75	8/10	33	14	P ₂₀ S ₂₀	2m50K	PR	es	-	-	-
B ₃	21-30	2-5R2/10	10	1.2	L	40	22	P ₂₀ S ₂₀	1m50K	PR	cm	-	-	-
B ₄	30-50	5-10R2/10	10	1.5	CU	10	32	S ₂₀ S ₂₀	2-50K	F-1	-	-	-	

Bedrock/Notes: Spand over conversion over conversion

Water Table? Y/N Description: _____

Indications of slips or slope failures? Y/N Description: _____

Special Features? Y/N Description: _____

Dominant Vegetation: oak / chestnut oak / scarlet oak / red maple / sourwood / sassafras / low bush blueberry

Other Notes: DEF PAN

TEST PIT DESCRIPTION

Soil Scientist: Mike Colbran

Signature: [Signature]

[Signature]

Field Assistant:

RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: R-160509-1550-MPC-7 R-007-160509-1550-MPC
 Date: 5/9/16
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: LWV (59E)
 Soil Series: Lew bouldery silt loam, 10-45% slopes

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
Di	0-5	10YR 2.5/1									a/s			
A	0.5-3	10YR 3/2	veh ss	1-5	sil	26	18	Po 50	1P sht	Fr	c/s			
BA	3-4	10YR 4/1	veh ss	1-5	sil	26	18	Po 85	1P sht	Fr	a/wi			
Bt	7-12	10YR 5/1	veh ss	1-5	l	35	25	P5 MS	2m sht	Fr	-			
wsh	12+													

Bedrock Notes: BLX found in adjacent stream; likely underneath water in this pit causing perching.

Water Table? Y/N Description: water at 17" wet seep 30' down slope

Indications of slips or slope failures? Y/N Description: up slope over slide onto area of investigation.

Special Features? Y/N Description: seep 30' down slope.

Dominant Vegetation: oaks / hickory / northern red oak / white oak / dogwood / sourwood / ~~red maple~~ / magnolia

Other Notes: might be result of upslope slip - large boulders and rock flows
water @ 12" seeping from 9" surface stone 40%

TEST PIT DESCRIPTION

Soil Scientist: Sohn Wal

Signature: David S. Suter

Field Assistant: D. Spence
Schnegelsberg

RETTEW Associates, Inc.
3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: ~~R-160510-0905-MPC-8~~ R-008-160510-0905-MPC

Date: ~~5/10/16~~

Job Name: Dominion - Atlantic Coast Pipeline Soil Survey

RETTEW Job #: 0839962000

NRCS Soil Unit: Berks (8D)

Soil Series: Berks channery silt loam, 7-25% slopes

USDA

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
G1	0-2	5YR5/1	—	—	—	—	—	—	2Mbr	fr	A-U	N	N	
A	2-5	10YR7/2	20% G1	1/8"	Sil	15	10	PO SD	1M5br	fr	AS	N	N	
Bw1	5-9.5	10YR5/4	5% CH	1/2-3"	Sil	20	14	PO SD	1M5br	fr	CS	N	N	
Bw2	9.5-18.5	10YR5/4	8% CH	3"-4"	Sil	20	14	PO SO	1M5br	fr	AW	N	N	
R	18.5+	—	—	—	—	—	—	—	—	—	—	—	—	

Shale - sloping down to North

Bedrock Notes: Shale - sloping down to North

Water Table? Y/N Description: _____

Indications of slips or slope failures? Y/N Description: _____

Special Features? Y/N Description: Compic

Dominant Vegetation: chestnut oak, Virginia pine, white pine, sweet gum, blueberry, white pine

Other Notes: _____

TEST PIT DESCRIPTION

Soil Scientist: John W. [Signature]
 Field Assistant: [Signature]

Signature: David [Signature]

RETTEW Associates, Inc.
 3020 Columbia Avenue
 Lancaster, PA 17603
 Phone: 717-394-3721
 Fax: 717-394-1063

*Don't forget to
 get [unclear]*

Wellhead #

Test Pit ID: ~~R-009-160510-0915-MPC~~ R-009-160510-0915-MPC
 Date: 5/11/10
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: Berks (8D)
 Soil Series: Berks channery silt loam, 7-25% slopes

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
<u>A</u>	<u>11.5-13.5</u>	<u>25H</u>	<u>25H</u>	<u>1/2-</u>	<u>L</u>	<u>45</u>	<u>10</u>	<u>PO</u>	<u>1C4M</u>	<u>F1</u>	<u>AMB</u>			
<u>D1</u>	<u>2.5-4.5</u>	<u>25H</u>	<u>25H</u>	<u>1-3"</u>	<u>5H</u>	<u>15</u>	<u>15</u>	<u>SP</u>	<u>1M4M</u>	<u>F1</u>	<u>CW</u>			
<u>D2</u>	<u>4.5-8.5</u>	<u>25H</u>	<u>25H</u>	<u>1-3"</u>	<u>L</u>	<u>45</u>	<u>10</u>	<u>PO</u>	<u>2M4M</u>	<u>F1</u>	<u>CW</u>			
<u>R</u>	<u>14-21</u>	<u>25H</u>	<u>25H</u>	<u>5-8"</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>PO</u>	<u>2M</u>	<u>F1</u>	<u>CW</u>			

Bedrock Notes: more level bedrock than R2B

Water Table? Y/N Description: _____

Indications of slips or slope failures? Y/N Description: _____

Special Features? Y/N Description: CONCRETE

Dominant Vegetation: Overgrown grass, some oak, yellow pine, blueberry

Other Notes: _____

*Shadows
 75% 1100
 well
 100% 600 500*

TEST PIT DESCRIPTION

Soil Scientist: John Wain

Signature: [Signature]

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Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: ~~R-160510-0925-10~~ 510116 R-010-160510-0925-MPC

Date: 5/10/16

Job Name: Dominion - Atlantic Coast Pipeline Soil Survey

RETTEW Job #: 089962000

NRCS Soil Unit: Berks (8D)

Soil Series: Berks channery silt loam, 7-25% slopes

USDA

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
0e	0-2	5YR 2.5/1								vr				
A	2-3.5	10YR 2/2	9' 5	0.25-0.5	1	45	8	Pu su	1' gr	fr	o/s			
Be	3.5-19.5	10YR 2/2	9' 8	0.25-0.5	1	40	12	so	1' sbl	fr	c/w			
Bt	13.5-30	10YR 5/1	9' 20	0.25-0.5	2	35	18	ps ss	2' m sbl	fr	c/w			FW Disc CUEY S&MS
Bc1	30-42	10YR 5/6	9' 55	0.25-0.5	1	45	13	so	1' m sbl	fr	c/w			
Bc2	42-50+	10YR 5/6	9' 65	0.25-0.5	1	42	10	so	1' p sbl	fr				

Bedrock Notes: Calcutta

Water Table? Y/N Description: _____

Indications of slips or slope failures? Y/N Description: _____

Special Features? Y/N Description: _____

Dominant Vegetation: white pine / scarlet oak / maple

Other Notes: _____

Many fine medium roots.

roots.
many fine medium fine
FW Disc
CUEY
S&MS
FW fine

TEST PIT DESCRIPTION

Soil Scientist: **DEF**

Field Assistant: *John Galbraith*

Signature: *Barndt Swartzman*

Cellulium?

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3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: ~~R-160510-0935~~ **MC 11** R-011-160510-0935-MPC
 Date: **5/10/16**
 Job Name: **Dominion - Atlantic Coast Pipeline Soil Survey**
 RETTEW Job #: **089962000**
 NRCS Soil Unit: **Berks (8E)**
 Soil Series: **Berks channery silt loam, 25-45% slopes**

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (Inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
0a	0-1	7.5YR 2.5/1	-	-	-	-	-	NP NS	1M_gr	YR	AW			Lab Sample ID 2007
A	1-4	10YR 3/2	101 CH	2 1/2"	SiL	10	10	SB SS	mod₁z g₁r	VFR	CS			M-F, M_g
BE	4-8	10R 5/3	15% CH	2 3/4"	SiL	10	15	SP SS	mod₁z sbk	FR	CW			C-F, M
2Bt1	8-10	7.5YR 5/10	45% CH	2 1/4"	L	30	24	SP SS	2msbr	FR	CW			C-F, M
2Bt2	10-20	5YR 5/14	45% CH	2 1/2"	CL	22	28	SP SS	2msbr	FR	CW			F-C
2Bt3	20-38	5YR 5/10	55% CH	2 1/4"	CL	22	30	SP SS	2c5br	FR	CW			-
2BtC	38-50+	5YR 4/6	75% CH 2 1/2"	2 1/2"	SL	20	20	NP NS	1c5br	FR	-			-

Bedrock Notes: **None encountered - siltstone/shale derived**

Water Table? **Y/N** Description: _____

Indications of slips or slope failures? **Y/N** Description: _____

Special Features? **Y/N** Description: **Argillie**

Dominant Vegetation: **White oak, white Ash, white pine, Dogwood** **no undergrowth**

Other Notes: **linear Rockstone Below Pit 9**

TEST PIT DESCRIPTION

Soil Scientist: D. Fenstermaker Signature: Barwill Fenstermaker
 Field Assistant: John G. Lewis, Charles, Steve,
Samir Wahi

RETTEW Associates, Inc.
 3020 Columbia Avenue
 Lancaster, PA 17603
 Phone: 717-394-3721
 Fax: 717-394-1063

Test Pit ID: R-160510-1445 ~~1445~~ AWZ 12 R-012-160510-1445-MPC
 Date: 5/10/16
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: Hazleton (51F)
 Soil Series: Hazleton soils, 25-70% slopes
 USDA

Horizon	Depth in inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
Oe	0-1	7.5YR 2.5/1	few surface boulders	1/2" - 1/4"	L	35	12	SP	1MGR	F-r	AW	N		many fine roots
A	1-2.5	10YR 6/2	5% gr	1/2"	L	35	12	SP	1FSAK	F-r	AW	N		many fine roots
E	2.5-12	10YR 6/1	20% gr	1/2"	S.L	18	15	SP	1MGR	F-r	AW	N		many fine roots
Bx	12-28	7.5YR 5/6	40% gr	1/2-2"	CL	24	29	SP	2MSAK	F-r	CS	N		Clay like 5% in on base
Bx2	28-29	7.5YR 5/4	50% gr / few stones/boulders	1/2-2"	CL	30	28	SP	2MSAK	F-r	CS	N		many fine roots
Bx3	29-30	7.5YR 5/4	50% gr / few boulders	1/2-2"	L	40	20		2MSAK	F-r	CS	N		many fine roots

Bedrock Notes: Not observed - refusal on Boulder - Not remarkable to dig around

Water Table? Y/N Description: 5 ft some seepage in pits

Indications of slips or slope failures? Y/N Description: down not quite erodic layers in pits

Special Features? Y/N Description: Black gum, white oak, Red oak

Dominant Vegetation: Red Maple

Other Notes: 1

TEST PIT DESCRIPTION

Soil Scientist: D. Ferguson

Signature: Samuel Ferguson

Field Assistant: Sohn Galbraith

Chert + shale

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3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID:	R-160510-1505-MPC-13 <u>3/10/14</u>	R-013-160510-1505-MPC	Topographic Position:	<u>Backslope</u>
Date:	<u>3/10/14</u>		% Slope / Aspect:	<u>38% North 340°</u>
Job Name:	Domillon - Atlantic Coast Pipeline Soil Survey		Drainage Class:	<u>Somewhat Poorly Drained</u>
RETTEW Job #:	089962000		Depth to Refusal:	<u>44" Rock</u>
NRCS Soil Unit:	<u>Hazleton (S1F)</u>		Bedrock Type and Dip Slope:	<u>350 Down 2°</u>
Soil Series:	<u>Hazleton soils, 25-70% slopes</u>		Mineralogy:	<u>Mixed</u>

Horizon	Depth in inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
O ₁	0-2	Red 2.5/1	Few small stones	rocks	L	40	14	N ₅ NP	dfgr	VF	AW	N		CM + Coarse MP + VF
A	0-2	10R 2/2	10% gr		L	40	14	N ₅ NP	dfgr	VF	AW	N		
AE	2-6	10R 2/1.5 gr	20% gr	< 1"	S.L	15	15	SP SP	1MSBK	VF	CW	N		Few mac common + VF
BE	6-11.75	10R 2/1.5 gr	10% gr	< 2"	S.L	15	20	SS SP	2MSBK	Fr	CW	N		Common med coarse few mac
Bt	11.75-20.5	10R 2/1.5 gr	10% gr	< 2"	S.L	20	25	MS MP	2MSBK	Fi	AW	N		Few mac few FVF clay rims
R	20.5-40		Soft shale - nodules	high fractures	high carbon					Shale - B				breaks out as < 1" chambers
R	40-44"		more	competent	shale									

Bedrock Notes: Shale sloping opposite to slope

Water Table? Y/N Description: Bedrock plane

Indications of slips or slope failures? Y/N Description: Appears to be top of cut of an old slide

Special Features? Y/N Description: Poroliths lithol

Dominant Vegetation: chestnut oak, tulip poplar, red maple, American chestnut saplings

Other Notes: colluvium on residuum

TEST PIT DESCRIPTION

Soil Scientist: Mike Callahan
Field Assistant: John Warr

Signature: *[Handwritten Signature]*

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3020 Columbia Avenue
Lancaster, PA 17603
Phone: 717-394-3721
Fax: 717-394-1063

Test Pit ID: ~~R-160510-1530~~ ~~MPC-14~~ R-014-160510-1530-MPC
 Date: ~~5/19/16~~
 Job Name: Dominion - Atlantic Coast Pipeline Soil Survey
 RETTEW Job #: 089962000
 NRCS Soil Unit: Udorthents, bouldery (85)
 Soil Series: Udorthents, bouldery

USDA

Topographic Position: F/S
 % Slope / Aspect: 2/1
 Drainage Class: Poorly drained
 Depth to Refusal: 16" --Water Table
 Bedrock Type and Dip Slope: N/A
 Mineralogy: Mixed

Horizon	Depth in Inches	Matrix Color	Rock Fragment Type and %	Rock Fragment Size (inches)	Texture Class	% sand	% clay	Plasticity / Stickiness	Structure Type, Grade, and Size	Moist Consistence	Horizon Boundary Topography and Distinctness	Redox Feature Color	Redox Feature Description	Lab Sample ID
0	0-2	2.5YR												
A	2-4	10YR 3/1	ch 10%	1-5"	sil	30	15	PS SO	1P sbl	fr	a/s			MF/mm/ FC
Eg	4-7	10YR 5/2	gr 25%	1-2"	sl	40	16	PS S	1M sbl	fr	C/S			MF/CN/ FC
Btg	7-16	2.5Y 6/1	gr 20%	1-3"	l	38	23	PS SS	1M sbl	fr	—			MF/Cm FC

Bedrock Notes:

Water Table? Y/N Description: water seep under A horizon Filled pit to 16"

Indications of slips or slope failures? Y/N Description: upslope slide may have extended into area

Special Features? Y/N Description:

Dominant Vegetation: maple / hickory oak / greenbrier / solomon's seal / grass

Other Notes: pit is 22" deep