

# CENTRAL UTAH WATER CONSERVANCY DISTRICT

## RECORD OF SURVEY FOR AS-BUILT BURIED PIPELINE (STARVATION FEEDER CONDUIT)

Located in Sections 11, 12 & 14, T3S, R5W, U.S.M.  
DUCHESE COUNTY, UTAH

LOCAL CARTESIAN GRID (Ground) COORDINATES				
MEAN PROJECT HEIGHT: 5,800 FEET • ELEVATIONS: NAVD88				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
2	100000	100000	5746.2	CONTROL POINT
7	97815.959	101082.301	5712.1	E 1/4 11-3-5 PLASTIC CAP
11	95151.403	98439.444	5903.2	S 1/4 11-3-5 DUCHESE COUNTY SURVEYOR 1984 AC
12	89864.361	98464.17	5843.6	S 1/4 14-3-5 DUCHESE COUNTY SURVEYOR 2005 AC
13	92523.216	101083.693	5710.6	E 1/4 14-3-5 DUCHESE COUNTY SURVEYOR 1989 AC
14	95165.699	101079.131	5721.9	SE 11-3-5 1/2" REBAR
16	100441.098	98482.708	5908.2	N 1/4 11-3-5 STONE
17	100447.486	101103.327	5738.5	NE 11-3-5 COPPER WELD
102	99990.377	100021.284	5729.9	BEGINNING PL, STA. 9+63.27
103	99976.266	100016.751	5726.9	84" GATE, P.I. 9+78.1
5	99980.52	100001.359	5746.5	DAM#3 BC ELEV 5746.507 BASE, STA. 9+78.8
104	99948.282	100006.861	5725.2	CL PL, P.I. 10+07.77
105	99937.93	100007.269	5724.4	CL PL, P.I. 10+18.13
8169	99745.194	100098.906	5733.7	CL PL, P.I. 12+31.49
8166	99662.854	100137.388	5733.0	CL PL, P.I. 13+22.41
8163	99532.186	100198.617	5730.7	CL PL, P.I. 14+66.74
8151	98821.786	100382.952	5723.0	CL PL, P.I. 22+00.59
8139	98239.023	100534.652	5718.7	CL PL, P.I. 28+02.80
8132	97809.156	100647.147	5717.7	CL PL, P.I. 32+47.20
8122	97745.459	100672.47	5719.6	CL PL, BEGIN DISCHARGE LINE STA. 33+15.7
8115	97378.68	100812.347	5722.0	CL PL, P.I. 37+08.29
8107	97120.185	100808.332	5726.8	CL PL, P.I. 39+66.73 BK EQUATION P.I. 39+62.09 AH
8085	96283.541	100464.434	5724.5	CL PL, P.I. 48+66.73
8081	96244.123	100434.13	5726.0	CL PL, P.I. 49+16.43
5212	96171.739	100373.886	5736.3	BRASS BM, STA. 54+76.3
5231	96171.56	100373.421	5736.4	CENTER TOP VENT BOX, STA. 54+76.8
8078	96167.623	100370.894	5732.4	CL PL, P.I. 50+15.70
5213	96153.843	100359.016	5750.6	BRASS BM ELE 5750.609, STA. 54+99.6
8058	95401.834	99750.912	5841.0	CL PL, P.I. 60+00.95
8012	92990.804	97797.563	5879.6	BURIED WATER LINE STA. 95+69.7
41	92024.119	97015.137		CL PL, P.I. 103+47.64
5207	92013.112	97006.017	5719.7	END PL, STA. 103+61.93
132	91962.355	96986.14	5716.8	BM
8122	97745.459	100672.47	5719.6	BEGIN BLOWOFF DISCHARGE LINE STA. 10+05.63
8127	97724.719	100778.418	5717.2	CL DISCHARGE LINE P.I. 11+13.62
8128	97661.641	100968.219	5711.7	CL DISCHARGE LINE P.I. 13+13.63
8129	97642.465	101055.676	5709.5	CL DISCHARGE LINE P.I. 14+03.16
8130	97635.145	101119.043	5709.7	CL DISCHARGE LINE P.I. 14+66.95
5227	97632.908	101154.483	5706.0	END BLOWOFF DISCHARGE LINE STA. 15+02.46

GEOGRAPHIC COORDINATES				
NAD 83 2011 Epoch 2010				
Derived from NGS Opus Solution Report				
POINT	NORTH LATITUDE	WEST LONGITUDE	HEIGHT	DESCRIPTION
2	40°14'26.42248"	110°24'43.66637"	5694.92	CONTROL POINT
7	40°14'04.84566"	110°24'29.71514"	5660.684	E 1/4 11-3-5 PLASTIC CAP
11	40°13'38.52170"	110°25'03.78031"	5851.722	S 1/4 11-3-5 DUCHESE COUNTY SURVEYOR 1984 AC
12	40°12'46.28981"	110°25'03.45739"	5791.894	S 1/4 14-3-5 DUCHESE COUNTY SURVEYOR 2005 AC
13	40°13'12.55750"	110°24'29.70018"	5658.905	E 1/4 14-3-5 DUCHESE COUNTY SURVEYOR 1989 AC
14	40°13'38.66319"	110°24'29.75749"	5670.373	SE 11-3-5 1/2" REBAR
16	40°14'30.77971"	110°25'03.22685"	5856.909	N 1/4 11-3-5 STONE
17	40°14'30.84304"	110°24'29.44259"	5687.201	NE 11-3-5 COPPER WELD
102	40°14'26.32741"	110°24'43.39198"	5678.612	BEGINNING PL, STA. 9+63.27
103	40°14'26.18800"	110°24'43.45042"	5675.587	84" GATE, P.I. 9+78.1
5	40°14'26.23003"	110°24'43.64885"	5695.175	DAM#3 BC ELEV 5746.507 BASE, STA. 9+78.8
104	40°14'25.91155"	110°24'43.57792"	5673.844	CL PL, P.I. 10+07.77
105	40°14'25.80928"	110°24'43.57266"	5673.069	CL PL, P.I. 10+18.13
8169	40°14'23.90520"	110°24'42.39133"	5682.326	CL PL, P.I. 12+31.49
8166	40°14'23.09174"	110°24'41.89526"	5681.621	CL PL, P.I. 13+22.41
8163	40°14'21.80084"	110°24'41.10595"	5679.361	CL PL, P.I. 14+66.74
8151	40°14'14.78264"	110°24'38.72978"	5671.576	CL PL, P.I. 22+00.59
8139	40°14'09.02538"	110°24'36.77440"	5667.334	CL PL, P.I. 28+02.80
8132	40°14'04.77861"	110°24'35.32442"	5666.312	CL PL, P.I. 32+47.20
8122	40°14'04.14932"	110°24'34.99802"	5668.15	CL PL, BEGIN DISCHARGE LINE STA. 33+15.7
8115	40°14'00.52580"	110°24'33.19512"	5670.584	CL PL, P.I. 37+08.29
8107	40°13'57.97207"	110°24'33.24698"	5675.317	CL PL, P.I. 39+66.73 BK EQUATION P.I. 39+62.09 AH
8085	40°13'49.70678"	110°24'37.68002"	5673.052	CL PL, P.I. 48+66.73
8081	40°13'49.31736"	110°24'38.07064"	5674.489	CL PL, P.I. 49+16.43
5212	40°13'48.60228"	110°24'38.84717"	5684.792	BRASS BM, STA. 54+76.3
5231	40°13'48.60051"	110°24'38.85316"	5684.86	CENTER TOP VENT BOX, STA. 54+76.8
8078	40°13'48.56161"	110°24'38.88573"	5680.873	CL PL, P.I. 50+15.70
5213	40°13'48.42548"	110°24'39.03884"	5699.13	BRASS BM ELE 5750.609, STA. 54+99.6
8058	40°13'40.99623"	110°24'46.87688"	5789.528	CL PL, P.I. 60+00.95
8012	40°13'17.17618"	110°25'12.05101"	5828.055	BURIED WATER LINE STA. 95+69.7
41	40°13'07.62526"	110°25'22.13328"		CL PL, P.I. 103+47.64
5207	40°13'07.51651"	110°25'22.25080"	5668.093	END PL, STA. 103+61.93
132	40°13'07.01505"	110°25'22.50688"	5665.25	BM
8122	40°14'04.14932"	110°24'34.99802"	5668.15	BEGIN BLOWOFF DISCHARGE LINE STA. 10+05.63
8127	40°14'03.94440"	110°24'33.63233"	5665.748	CL DISCHARGE LINE P.I. 11+13.62
8128	40°14'03.32117"	110°24'31.18577"	5660.232	CL DISCHARGE LINE P.I. 13+13.63
8129	40°14'03.13169"	110°24'30.05844"	5658.07	CL DISCHARGE LINE P.I. 14+03.16
8130	40°14'03.05935"	110°24'29.24162"	5658.274	CL DISCHARGE LINE P.I. 14+66.95
5227	40°14'03.03723"	110°24'28.78479"	5654.545	END BLOWOFF DISCHARGE LINE STA. 15+02.46

STATE PLANE COORDINATES				
UTAH - NAD 1983 - CENTRAL ZONE - U.S. SURVEY FOOT				
POINT	NORTHING	EASTING	DESCRIPTION	
2	7258238.351	1944094.394	CONTROL POINT	
7	7256068.401	1945202.786	E 1/4 11-3-5 PLASTIC CAP	
11	7253372.854	1942593.456	S 1/4 11-3-5 DUCHESE COUNTY SURVEYOR 1984 AC	
12	7248088.382	1942682.454	S 1/4 14-3-5 DUCHESE COUNTY SURVEYOR 2005 AC	
13	7250777.943	1945268.525	E 1/4 14-3-5 DUCHESE COUNTY SURVEYOR 1989 AC	
14	7253419.237	1945231.838	SE 11-3-5 1/2" REBAR	
16	7258660.813	1942572.387	N 1/4 11-3-5 STONE	
17	7258699.061	1945191.81	NE 11-3-5 COPPER WELD	
102	7258228.991	1944115.787	BEGINNING PL, STA. 9+63.27	
103	7258214.83	1944111.427	84" GATE, P.I. 9+78.1	
5	7258218.896	1944095.989	DAM#3 BC ELEV 5746.507 BASE, STA. 9+78.8	
104	7258186.739	1944101.881	CL PL, P.I. 10+07.77	
105	7258176.396	1944102.415	CL PL, P.I. 10+18.13	
8169	7257984.857	1944196.356	CL PL, P.I. 12+31.49	
8166	7257903.019	1944235.822	CL PL, P.I. 13+22.41	
8163	7257773.151	1944298.614	CL PL, P.I. 14+66.74	
8151	7257065.296	1944491.508	CL PL, P.I. 22+00.59	
8139	7256484.627	1944650.228	CL PL, P.I. 28+02.80	
8132	7256056.311	1944767.901	CL PL, P.I. 32+47.20	
8122	7255992.949	1944793.988	CL PL, BEGIN DISCHARGE LINE STA. 33+15.7	
8115	7255628.028	1944938.264	CL PL, P.I. 37+08.29	
8107	7255369.594	1944937.394	CL PL, P.I. 39+66.73 BK EQUATION P.I. 39+62.09 AH	
8085	7254529.127	1944603.815	CL PL, P.I. 48+66.73	
8081	7254489.357	1944574.002	CL PL, P.I. 49+16.43	
5212	7254416.272	1944514.664	BRASS BM, STA. 54+76.3	
5231	7254416.088	1944514.202	CENTER TOP VENT BOX, STA. 54+76.8	
8078	7254412.121	1944511.724	CL PL, P.I. 50+15.70	
5213	7254398.203	1944500.018	BRASS BM ELE 5750.609, STA. 54+99.6	
8058	7253639.122	1943901.318	CL PL, P.I. 60+00.95	
8012	7251205.377	1941978.12	BURIED WATER LINE STA. 95+69.7	
41	7250229.593	1941207.784	CL PL, P.I. 103+47.64	
5207	7250218.48	1941198.801	END PL, STA. 103+61.93	
132	7250167.503	1941179.55	BM	
8122	7255992.949	1944793.988	BEGIN BLOWOFF DISCHARGE LINE STA. 10+05.63	
8127	7255973.506	1944900.142	CL DISCHARGE LINE P.I. 11+13.62	
8128	7255912.762	1945090.629	CL DISCHARGE LINE P.I. 13+13.63	
8129	7255894.568	1945178.282	CL DISCHARGE LINE P.I. 14+03.16	
8130	7255888.111	1945241.711	CL DISCHARGE LINE P.I. 14+66.95	
5227	7255886.306	1945277.163	END BLOWOFF DISCHARGE LINE STA. 15+02.46	

### SURVEYOR'S NARRATIVE

WE WERE ASKED BY CENTRAL UTAH WATER CONSERVANCY DISTRICT (CUWCD) PERSONNEL TO SURVEY THE LOCATION OF THE STARVATION FEEDER CONDUIT, ITS EASEMENT LIMITS, CUWCD'S DUCHESE RIVER OUTLET DIVERSION PROPERTY AND A PERPETUAL EASEMENT LOCATED IN THE EAST 1/2 OF THE SE 1/4 OF SECTION 11. THE PURPOSE OF THE SURVEY IS TO PROVIDE MONUMENTS SHOWING THE LOCATION OF THE PIPELINE AND ITS EASEMENT LIMITS.

AS CONTROL FOR THE SURVEY WE USED THE SECTION CORNERS SHOWN HEREON.

WE ALSO UTILIZED THE FOLLOWING REFERENCE MATERIAL:

- GOVERNMENT LAND OFFICE (G.L.O.) SURVEYS OF THE AREA.
- CORNER MONUMENT RECORDS ON FILE WITH THE DUCHESE COUNTY SURVEYOR'S OFFICE.
- RECORDS OF SURVEY ON FILE WITH THE DUCHESE COUNTY SURVEYOR'S OFFICE, FILE #92, 161, 2118, 2500 AND 2934.
- WARRANTY DEED ON FILE WITH THE DUCHESE COUNTY RECORDER'S OFFICE, BOOK 1-A, PAGES 112-118.
- A DRAWING OF THE STARVATION FEEDER CONDUIT PIPELINE ALIGNMENT AND PROFILE, FURNISHED TO ME BY THE CUWCD. THIS DRAWING ALSO SHOWS THE ALIGNMENT FOR THE TUNNEL EXTENDING TO STARVATION RESERVOIR.

THE ALIGNMENT AND PROFILE DRAWING MENTIONED ABOVE WAS PREPARED BY THE UNITED STATES BUREAU OF RECLAMATION AND BEARS A DATE OF 1969. THIS DRAWING SHOWS THE FEEDER CONDUIT PIPELINE WITH A 110' EASEMENT, BEING MEASURED 50' EAST AND 60' WEST OF THE PIPELINE. THE DRAWING ALSO SHOWS A 50' EASEMENT FOR THE TUNNEL. STATE PLANE COORDINATE TICK MARKS ARE PLOTTED ON THE DRAWING BUT THERE ARE NO COORDINATES LISTED ON ANY OF THE PIPELINE OR EASEMENT ELEMENTS. THE DRAWING DOES NOT SHOW ANY DIRECT TIES TO THE COORDINATE SYSTEM OR THE PUBLIC LAND SURVEY SYSTEM (SECTION CORNERS).

OTHER THAN THE DRAWING MENTIONED ABOVE AND THE ACCESS RIGHT-OF-WAY AND DISPOSAL AREA EASEMENT; WE WERE UNABLE TO LOCATED ANY RECORDED OR UNRECORDED DOCUMENTS RELATING TO THE TUNNEL OR PIPELINE CONDUIT AND THEIR EASEMENTS.

POSITION OF THE AS-BUILT PIPELINE CONDUIT AND TUNNEL WERE DETERMINED BY A TOTAL STATION TRAVERSE WITHIN THE PIPE AND TUNNEL. CHECKS TO GPS CONTROL WERE MADE AT VARIOUS ENTRANCE POINTS. WE DETERMINED EASEMENT LIMITS BY OVERLAYING THE 1969 ALIGNMENT AND PROFILE WITH THE AS-BUILT LOCATION OF THE PIPELINE AND TUNNEL.

TRIMBLE GPS EQUIPMENT AND A TOP-CON GTS 236 W TOTAL STATION UNIT WERE USED IN PERFORMANCE OF THE SURVEY.

BASIS OF BEARINGS FOR THE SURVEY IS THE SOUTH LINE OF THE SE 1/4 OF SECTION 11 WHICH IS CALCULATED FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N89°41'23"E. UNITS USED ARE U.S. SURVEY FOOT.

### EASEMENTS OF RECORD

Advance Title of Vernal City, Utah was retained to perform a search of Easements and Rights-of-Way of record which may affect the subject pipeline within Sections 11, 12 and 14, T3S, R5W, U.S.M.. In determining easements of record, Timberline has relied upon the Advance Title report.

Items located by Advance Title are listed below:

1. Assignment of Right-of-Ways, entry #89688 (Book A-81, Page 438 - 441), filed July 11, 1961. The Assignment was issued by The Mountain States Telephone and Telegraph Company in favor of Utah Basin Telephone Association, Inc. and Assigns forever a list of right of ways. Two of the listed Right of Ways may affect the subject pipeline. The first was originally granted by the United States Government Department of Interior, Right of Way #6 (unrecorded) dated October 26, 1932, and is described as: S1/4, T3S, T4W to S14, T3S, R5W. The second was originally granted by Melvin B. White, Lola White, Oscar T. White and Ann B. White, Right of Way #29328, Dated February 25, 1953, recorded January 20, 1954, Book 26 of Deeds, Page 583, Duchesne County, Utah records. Described as: In E-1/2 of NE-1/4 of S14, and E-1/2 of E-1/2 of S11, T3S, R5W, U.S.M., Duchesne County, Utah. This item may affect the easement.
2. Warranty Deed together with a perpetual easement for road and structures, entry #139814 (Book 1-A, Pages 112-118), filed July 26, 1966. The Deed was issued by Melvin and Lola White in favor of the United States of America and deeds a parcel of land at the north end of the subject pipeline (as shown hereon), a parcel of land at the south end of the subject pipeline and an easement to access the parcel of land located at the north end of the subject parcel. This item may affect the easement.
3. Right-of-Way Easement, entry # 401645 (Book AS26, Pages 609 and 610), filed January 8th, 2008. The Right-of-Way Easement was issued by Stann and Suzann Young in favor of Moon Lake Electric Association, Incorporated and grants an easement for an electric transmission and/or distribution line system across a strip of land which traverses the Northeast quarter of the Northeast quarter of Section 11, said strip's north line being the north line of Section 11. This item may affect the easement.
4. Quitclaim Deed of Easement, entry #255634 (Book A-148, Pages 594-597), filed August 27th, 1986, the Quitclaim Deed of Easement was issued by United States of America in favor of The Mountain States Telephone and Telegraph Company and grants an easement telephone lines across three strips of land located in Sections 14 and 16, Township 3 South, Range 5 West, U.S.M. one of the three strips of land is located in Section 14 and crosses the subject parcel in the Northeast quarter of the Southwest quarter. This item may affect the easement.
5. Right-of-Way Agreement, entry # 240339 (Book A-116, Pages 136 and 137), filed July 17th, 1984. The Right-of-Way Agreement was issued by Betulia Torro Herrick, Trustee, in favor of UTEX Oil Company and grants an easement for a pipeline or pipelines across the Southwest quarter of Section 14 being 160 rods in length, more or less. This item may affect the easement.
6. Right-of-Way Agreement, entry # 240338 (Book A-116, Pages 134 and 135), filed July 17th, 1984. The Right-of-Way Agreement was issued by Juanita C. Smith and Dennis G. Smith, Inc. in favor of UTEX Oil Company and grants an easement for a pipeline or pipelines across the Northwest quarter of Section 14.
7. Right-of-Way Easement, entry #160585 (Book A-19, Page 446), filed February 1st, 1972, the Right-of-Way Easement was issued by Melvin and Lola White in favor of Moon Lake Electric Association, Inc. and grants an easement for an electric transmission and/or distribution line system across the NW 1/4 SE 1/4 Sec. 14, T3S, R5W, U.S.M. This item may affect the easement.
8. Electric Line Right-of-Way Easement, Book A-8, Page 203 and 204, filed January 3rd, 1969, Electric Line Right-of-Way Easement was issued by Melvin and Lola White in favor of Moon Lake Electric Association, Inc. and grants an easement for an electric transmission and/or distribution line system across Section 14, Township 3 South, Range 5 West, U.S.M. This item may affect the easement.
9. Electric Line Right-of-Way Easement, Book A-5, Page 524 and 525, filed March 18th, 1968, Electric Line Right-of-Way Easement was issued by Duch