

1189

STATE OF COLORADO
DEPARTMENT OF LAW

AGRICULTURAL ENGINEERING STUDY
SOUTHERN UTE & UTE MOUNTAIN
UTE INDIAN RESERVATIONS

SAN JUAN WEST WATERSHED
TASK D & E REPORT
STEP A

DESIGN & COST ESTIMATE FOR
OFF-FARM IRRIGATION FACILITIES &
PRELIMINARY PIA DETERMINATION

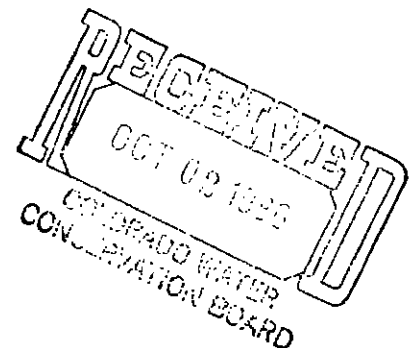


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SAN JUAN WEST WATERSHED

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TASK D & E REPORT
SAN JUAN WEST WATERSHED

D.1 GENERAL

The purpose of this task report is to present the methodology for determining practicably irrigable acreage (PIA) for the San Juan West Watershed in the Ute Mountain Ute Reservation. The test for PIA requires that the revenues exceed the cost. The land under consideration when cropped and irrigated must return sufficient net positive income to pay for the costs of providing irrigation water to the farm headgate. In order to determine PIA it is necessary to conceptually design an irrigation transmission system to deliver water to the farm headgate for each arable parcel. The annualized cost of the off-farm irrigation water transmission system is compared to the net positive income (payment capacity) of the parcel.

Arable lands were identified by Stoneman and Landers. Potential crops, irrigation water requirements, on-farm irrigation systems cost, and other related agronomic information were prepared by Boyle and presented in Task A and B reports. Economic methodology and net agricultural returns were prepared by Western Research Corporation.

This preliminary PIA analysis compares the preliminary net agricultural return with the cost of water delivery from the primary water source to the parcel headgate. For this preliminary analysis, the highest net agricultural return for each climatic zone is used.

Off-farm irrigation transmission facilities were conceptually designed for those parcels with preliminary payment capacities greater than the off-farm water pumping costs. The pumping cost was re-evaluated, added to the facilities cost, and compared to the preliminary payment capacity.

To complete the PIA analysis, the cropping pattern and payment capacities will be reviewed by the economist taking into account the practicality of the cropping pattern for the particular parcel and any agronomic costs that might be particular to the parcel. Several iterations of this process between the economist and the engineer may be necessary in order to develop the most economical parcel and facilities layout. Those parcels that still exhibit positive residual payment capacity after these further analyses are then determined to be practicably irrigable.

D.2 SELECTION OF PARCELS FOR OFF-FARM DESIGN

Parcels to be considered for PIA analysis were identified in the Task B Report along with on-farm irrigation costs. The Task B report identified irrigation costs for handmove sprinkler, sideroll sprinkler, gravity (furrow or basin), center pivot, and center pivot with sprinkler in the corners. Computer tabulation compared on-farm irrigation costs to the crop payment capacity for a sorn/soybean crop rotation. The tall growth habit of corn rules out sideroll and handmove sprinklers. As a result, parcels with a corn/soybean rotation were evaluated with gravity and the center pivot system

options only.

The first step in making this task analysis was determination of the presently irrigated lands on Ute Mountain Ute Indian lands. W. W. Wheeler & Associates, Inc., hydrology consultant, identified from aerial photographs and other information available to them the lands presently irrigated and provided to Boyle a marked print of the base map. The amount of irrigated acreage was then planimetered from the base map and tabulated. It should be noted that presently irrigated land covers some land not classified and Class 6 (non-irrigable) soils as determined by Stoneman-Landers, soil consultants.

For the remaining irrigable parcels, an analysis was made to determine the residual water payment capacity when only the off-farm static pumping lift costs were added to the on-farm costs identified in Task B. Based on the elevation of the nearest water supply and the elevation of the highest point in each parcel, the static lift to serve the parcel was calculated using the computer program developed for the Task B report. The power cost to lift the annual water requirement to each field was then calculated assuming a 75 percent pumping plant efficiency which is a conservatively high assumption; and a field delivery pressure of 60 psi for all but gravity irrigated fields.

It should be noted that the parcel water payment capacity residual analysis (Appendix D) was slightly modified from the analysis presented in the Task B draft report. Land leveling costs for

gravity irrigated fields were not included in the Task B on-farm costs. The Task B report, however, estimated land leveling quantities in the range of one foot average cuts at a cost of \$0.50 to \$1.00 per cubic yard. As a conservatively low estimate, an average 6-inch cut at \$0.50 per cubic yard for a total cost of \$403 per acre was assumed for this Task D analysis. Amortizing this cost at 8-3/8 percent interest over 50 years gives a cost of \$34.40, or in round numbers, \$35 per acre. This cost was then included in the on-farm costs for gravity irrigation.

D.3 OFF-FARM IRRIGATION TRANSMISSION SYSTEM COST

D.3.1 General

The off-farm irrigation transmission facilities will generally consists of transmission pipelines, pumping stations, and diversion facilities. Roads for access to pump stations; rights-of-way; and the extension of electrical power services to pumping stations were not included in the cost analysis. Costs for those items included are based on experience with similar facilities. All costs are then amortized using a discount rate of 8-3/8 percent over a 50 year project life.

D.3.2 Pumping Stations

Pump station costs were estimated using an equation which considers flow and horsepower as variables. The equation is based on Boyle's experience with various size agricultural pump stations which include pump motor, pump structure, valves, surge control, and power panel. The equation is:

$$\text{Cost (\$)} = 2441 \times (\text{GPM})^{0.41} + 150 (\text{HP})^{1.05}$$

where GPM is the system flow rate in gallons per minute and HP is the gross horsepower.

D.3.3 Pipelines

The cost of pipelines is estimated based on experience in water transmission pipeline work. The least cost type of pipe material for the various diameters is reflected in the estimate. Pipeline costs have been compared with pipeline cost estimates from the United States Bureau of Reclamation (USBR) Dolores Project as well as the Animas-La Plata Definite Plan Report. Installed estimated pipeline costs are shown in Table D.1.

D.3.4 River Diversion Structures

River diversion structures were included for parcels over 30 acres. The diversion structure would be constructed across the river to form a pool of water with sufficient depth for the pump to draw from. A weir type diversion structure consists of a 4 foot high wall with a footing and riprap on each side for stability and protection from ice damage. The estimated cost of the structure is \$210 per foot. The diversion structures were estimated to be 50 feet long for the San Juan River.

It may not be practical to build a massive diversion to serve a small parcel. A farmer farming a small parcel with low flow requirements would probably have a simple temporary diversion which could be nothing more than a berm graded across the river with a backhoe or

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TABLE D.1
PIPELINE COSTS

Pipe Diamet. (inch)	Installed Cost - \$/ft ^{1/}					
	100 psi	150 psi	200 psi	250 psi	300 psi	350 psi
4	10.50	11.00	11.50	12.00	12.50	13.00
6	12.00	12.50	13.00	14.00	14.50	15.00
8	15.50	16.00	17.00	17.50	18.50	20.00
10	20.00	21.00	22.50	23.50	25.00	26.50
12	24.00	26.50	28.50	31.00	33.00	35.00
14	28.50	32.00	35.00	38.00	41.00	44.00
15	31.00	34.50	38.50	42.50	45.50	49.00
16	34.00	37.50	42.00	46.00	50.00	54.00
18	41.00	45.00	50.00	54.00	59.50	65.00
20	48.50	53.00	58.00	63.50	69.00	75.00
21	50.50	55.50	60.50	66.00	71.50	77.00
24	62.00	69.00	75.50	82.00	88.50	95.50
27	75.50	82.00	88.50	96.50	104.00	112.00
30	89.50	96.50	103.00	111.00	120.00	128.50
33	104.50	111.00	116.50	126.50	137.50	148.50
36	115.50	122.00	130.50	142.00	155.00	166.00
42	130.50	136.00	143.00	155.00	170.00	181.50

^{1/} Unit construction cost including 10% allowance for appurtenances.

dozer to form a shallow pool for his pump to take suction from if flows in the stream are low. If stream flows were too large to allow installation of a temporary diversion, a low flow could most likely be pumped without a diversion.

The berm may require regrading several times during the irrigation season. However, the overall cost of such diversions is minimal. The decision on the type and size of diversion will vary with each parcel and would require extensive review in the field. Therefore, in order to simplify the analysis it is assumed that no special diversion structure will be required for parcels of 30 acres or less.

In cases where several parcels can be served from one diversion and the combined acreage is over 30 acres, the cost of the diversion is divided between the parcels in proportion to parcel acreage. This approach is believed to be conservative (in favor of generating PIA) and realistic for this type of analysis.

D.3.5 Other Costs

Annual maintenance of major facilities including pipelines, pump stations, and river diversions is estimated at 0.5 percent of the initial construction cost.

The cost of electrical energy is assumed to be \$0.068605/KWhr for the Southern Ute area and \$0.065039/KWhr for the Mountain Ute area. These are commercial user rates being charged during the first half of 1985. A detailed discussion of the power costs was previously

provided.

D.3.6 Other Costs not Included

Other known costs which could be considered are costs for access roads to the pump stations, right-of-way costs where pipelines or pump stations may be on non-Indian land, and costs to provide electric power service to the pump station. These costs are either minor and/or difficult to estimate with available information. Therefore, for these preliminary analyses, they have not been considered at this time.

The cost of power line extensions to serve pumping facilities could be quite high, especially if three phase power is required. Three phase power will be required for pump stations over 25 horsepower.

D.4 PRELIMINARY PRACTICABLE IRRIGABLE ACREAGE

D.4.1 Existing Irrigated Lands

Lands currently irrigated are assumed to be PIA requiring no further evaluation. No currently irrigated land was found in the San Juan West Watershed.

D.4.2 Water Supply

An examination of the hydrology data for the San Juan River shows that there is sufficient virgin flow during the summer irrigation periods to serve the potential arable lands directly from the river. Therefore, it was not necessary to perform any operational studies involving storage reservoirs.

D.4.3 Cropping Pattern

For the preliminary analysis of PIA, a cropping pattern with the highest net agricultural returns in Climate Zone C was used. Table D.2 identifies this cropping pattern as well as the net agricultural return.

D.4.4 Preliminary PIA Analysis

A preliminary PIA analysis was performed comparing a parcel's payment capacity with a preliminary estimate of the cost to pump water from the river to the parcel. This preliminary water cost was based on the static pumping lift (the difference in elevation from the water surface in the river to the elevation of the parcel) for gravity irrigated fields or plus a field delivery pressure of 60 psi for sprinkler irrigation. Detailed tabulations of the analysis are shown in Appendix D.1. Table D.3 identifies only those parcels with a residual preliminary payment capacity requiring further consideration. A total of 9 parcels covering 310 acres showed a residual preliminary payment capacity.

An off-farm irrigation transmission system was designed for those parcels near the San Juan River showing a residual preliminary payment capacity. Those calculations are shown in Appendix D.2 and summarized in Table D.4. Parcels with a positive payment capacity after comparing the residual preliminary payment capacity to the cost of water are initially identified as practicably irrigable.

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TABLE D.2
PRELIMINARY CROPPING PATTERN

Climatic Zone	Elevation Range, ft.	Crop Mix ^{1/}	Maximum Net Agricultural Return ^{2/} \$/ac/yr
A	<5,000	Corn, Soybeans	375
B	5,000-5,400	Corn, Soybeans	330
C	5,400-5,800	Corn, Soybeans	285
D	5,800-6,200	Alfalfa, Malt Barley	270
E	6,200-6,600	Alfalfa, Malt Barley	240
F	6,600-7,000	Alfalfa, Malt Barley	210
G	7,000-7,400	Alfalfa, Malt Barley	185
H	7,400-7,800	Alfalfa, Malt Barley	160
I	7,800-8,200	Grass Hay, Pasture	85
J	>8,200	Grass Hay, Pasture	70

1/ Cropping mix and maximum net agricultural return provided by Western Research Corporation, April 11, 1986.

2/ Maximum net agricultural returns do not include on-farm irrigation costs.

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TABLE D.3
PARCELS WITH RESIDUAL PRELIMINARY PAYMENT CAPACITY
 (Considering pumping only)

Parcel No.	Gross Acres	Residual Prelim. Payment Capacity (\$/ac/yr)				
		Hndmve.1/	Sdroll.2/	Grav.3/	Cntrpvt.4/	Cpvt/Hmv.5/
SW74	7	125	-4	100		
SW75	42	184	169	136		
SW76	101	204	192	152	131	136
SW77	27	189	159	151		
SW78	6	150	2	128		
SW79	10	182	106	150		
SW80	12	208	141	178		
SW81	47	238	222	193	92	100
SW82	58	237	222	191	106	114

1/ Hndmve - Handmove sprinkler, on-farm irrigation system.

2/ Sdroll - Sideroll sprinkler, on-farm irrigation system.

3/ Grav - Gravity on-farm irrigation systems.

4/ Cntrpvt - Center pivot sprinkler, on-farm irrigation system.

5/ Cpvt/hmv - Center pivot sprinkler, on-farm irrigation system with hand move in the corners.

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TABLE D.4
SUMMARY OF OFF-FARM IRRIGATION WATER COST

Parcel No.	Gross Acres	<u>1/</u> Net Acres	Preliminary <u>2/</u> Pay.Cap. \$/ac/yr	Water Cost \$/ac/yr	Residual Pay.Cap. \$/ac/yr
SW74	7	7	186	808	-622
SW75	42	41.5	222	369	-147
SW76	101	99.9	215	167	483/
SW77	27	27	226	377	-151
SW78	6	6	179	740	-561
SW79	10	10	202	387	-185
SW80	12	12	207	274	-67
SW81	47	46.5	221	154	673/
SW82	58	57.4	220	155	653/

1/ Net acres for parcel, irrigation system, combination resulting in the highest payment capacity. See Appendix D.1.

2/ Highest preliminary payment capacity for irrigation system adaptable to corn and soybean cropping rotation from Appendix D.1.

3/ Parcel with positive residual payment capacity.

A number of parcels in the San Juan West Watershed had a residual preliminary payment capacity even though the distance to the river was considerable. Instead of designing individual lines of supply to each of these remote parcels, a single line was sized to serve all parcels. The per acre cost of this single transmission line was compared to the residual preliminary payment capacity of each parcel.

D.4.5 Preliminary Practicably Irrigable Acreage Determination

Table D.5 and Figures D.1 through D.3 identify the preliminary practicably irrigable acreage for the San Juan West Watershed. A total of 206 acres was identified as PIA with an estimated annual water diversion of 626 acre-feet from the San Juan River.

In order to finalize the PIA determination, the cropping pattern and net agricultural returns must be re-evaluated by the economist (Wester Research Corporation) on a parcel-by-parcel basis and adjusted to reflect individual parcel characteristics. It will then be necessary to perform another engineering analysis comparing the revised payment capacity with a revised off-farm irrigation system and cost.

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TABLE D.5
SUMMARY OF PRELIMINARY PIA LANDS

Parcel No.	Gross Acres	Net Acres	Prelim. Pay.Cap. \$/ac/yr	Water Cost \$/ac/yr	Residual Pay.Cap. \$/ac/yr	Diversion Required ² / ac-ft/yr.
SW76	101	99.9	215	167	48	306.7
SW81	47	46.5	221	154	67	142.8
SW82	58	57.4	220	155	65	176.2
TOTAL	206	203.8				625.7

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APPENDIX D.1
PRELIMINARY PIA ANALYSIS

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APPENDIX D.1
LEGEND

Parcel I.D.: M03-SW-01, "M03" = Sheet 3; "SW" = San Juan West Watershed; "01" = parcel number.

Field Size: Gross size of parcel in acres.

Reduction Factor: Acreage reduction factor discussed in Task A Report

Net Acreage: The product of field size times reduction factor.

Elevation High and Low: The maximum and minimum elevation within the parcel.

Climatic Zone: Discussed in Task A Report and determined by the parcel's elevation.

Irrigation System Type: Type of on-farm irrigation system.

- HNDMVE - Handmove sprinkler
- SDROLL - Side roll sprinkler
- GRAV - Gravity
- CNTRPVT- Center pivot sprinkler
- CPVT/HMV- Center pivot with handmove

Net Feet: The unit net average irrigation water requirement for the parcel in acre-feet per acre.

Irrigation Efficiency: Irrigation efficiency discussed in Task A Report.

Applied: The unit gross on-farm average irrigation water requirement in acre-feet per acre.

Preliminary Net Ag Return: The preliminary net agricultural return not including the on-farm irrigation system or off-farm irrigation water transmission/distribution system.

Capital: The amortized capital cost per acre per year for the on-farm irrigation system (at 8 3/8% for 50 years) from Task B Report.

Maintenance: The per acre per year maintenance cost of the on-farm irrigation system from the Task B Report.

Labor: The per acre per year labor cost for operation of the on-farm irrigation system from the Task B Report.

Pumping: The per acre per year cost of providing additional on-farm pumping to meet the higher pressure requirements of the center pivot irrigation system.

¹²¹²
Preliminary Payment Capacity: The preliminary net ag. returns minus the on-farm irrigation capital, maintenance, labor, and pumping cost in dollars per acre.

Water Source Elevation: The water source diversion point nominal elevation.

Static Lift: The difference in elevation of the parcel's high elevation and and water source elevation in feet.

Annual Power Cost/Acre: The cost of electrical energy per acre per year to serve the parcel considering only the static lift in the case of gravity irrigation or the static lift plus 139 ft. (60 psi) for all types of sprinkler irrigation.

Residual Preliminary Payment Capacity: The result of the preliminary payment capacity minus the annual power cost for pumping at the water supply source in dollars per acre.

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 San Juan West Watershed

PARCEL I D	***** ACREAGE *****			***** WATER REQUIREMENTS *****							***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM. PAYMENT CAPACITY	
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****				PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV.	STATIC LIFT		ANNUAL POWER COST/ACRE
M03-SW-001	97	.99	96	5760	5680	C	HNDXVE	1.53	.7	2.18	\$ 285	\$ 35	\$ 4	\$ 26	\$ 0	\$ 217	4620	1140	\$ 261	\$-44
M03-SW-001	97	.99	96	5760	5680	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 54	\$ 16	\$ 12	\$ 0	\$ 201	4620	1140	\$ 261	\$-59
M03-SW-001	97	.99	96	5760	5680	C	GRAV	1.53	.65	2.35	\$ 285	\$ 116	\$ 7	\$ 26	\$ 0	\$ 134	4620	1140	\$ 251	\$-117
M03-SW-001	97	.83	80.8	5760	5680	C	CMTRPVT	1.53	.75	2.04	\$ 285	\$ 93	\$ 36	\$ 4	\$ 17	\$ 132	4620	1140	\$ 244	\$-111
M03-SW-001	97	.98	95.3	5760	5680	C	CPVT/HMV	1.53	.74	2.06	\$ 285	\$ 87	\$ 32	\$ 7	\$ 17	\$ 139	4620	1140	\$ 246	\$-106
M03-SW-002	228	.98	223.4	5800	5560	C	HNDXVE	1.53	.7	2.18	\$ 285	\$ 35	\$ 4	\$ 26	\$ 0	\$ 218	4620	1180	\$ 269	\$-51
M03-SW-002	228	.98	223.4	5800	5560	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 58	\$ 16	\$ 12	\$ 0	\$ 198	4620	1180	\$ 269	\$-71
M03-SW-002	228	.98	223.4	5800	5560	C	GRAV	1.53	.65	2.35	\$ 285	\$ 118	\$ 6	\$ 26	\$ 0	\$ 133	4620	1180	\$ 260	\$-126
M03-SW-002	228	.83	189.9	5800	5560	C	CMTRPVT	1.53	.75	2.04	\$ 285	\$ 63	\$ 24	\$ 2	\$ 8	\$ 186	4620	1180	\$ 251	\$-64
M03-SW-002	228	.98	224.1	5800	5560	C	CPVT/HMV	1.53	.74	2.06	\$ 285	\$ 58	\$ 21	\$ 6	\$ 17	\$ 181	4620	1180	\$ 254	\$-73
M03-SW-003	61	.99	60.3	5720	5600	C	HNDXVE	1.53	.7	2.18	\$ 285	\$ 34	\$ 4	\$ 26	\$ 0	\$ 219	4620	1100	\$ 253	\$-33
M03-SW-003	61	.99	60.3	5720	5600	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 55	\$ 16	\$ 12	\$ 0	\$ 200	4620	1100	\$ 253	\$-52
M03-SW-003	61	.99	60.3	5720	5600	C	GRAV	1.53	.65	2.35	\$ 285	\$ 113	\$ 6	\$ 26	\$ 0	\$ 137	4620	1100	\$ 242	\$-104
M03-SW-003	61	.83	50.8	5720	5600	C	CMTRPVT	1.53	.75	2.04	\$ 285	\$ 120	\$ 48	\$ 5	\$ 21	\$ 88	4620	1100	\$ 236	\$-148
M03-SW-003	61	.98	59.9	5720	5600	C	CPVT/HMV	1.53	.74	2.06	\$ 285	\$ 112	\$ 42	\$ 9	\$ 21	\$ 98	4620	1100	\$ 239	\$-140
M03-SW-004	37	1	37	5740	5680	C	HNDXVE	1.53	.7	2.18	\$ 285	\$ 34	\$ 4	\$ 27	\$ 0	\$ 217	4620	1120	\$ 257	\$-39
M03-SW-004	37	1	37	5740	5680	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 57	\$ 16	\$ 19	\$ 0	\$ 191	4620	1120	\$ 257	\$-66
M03-SW-004	37	1	37	5740	5680	C	GRAV	1.53	.65	2.35	\$ 285	\$ 109	\$ 5	\$ 27	\$ 0	\$ 141	4620	1120	\$ 246	\$-105
M03-SW-005	29	1	29	5700	5600	C	HNDXVE	1.53	.7	2.18	\$ 285	\$ 37	\$ 4	\$ 27	\$ 0	\$ 215	4620	1080	\$ 249	\$-34
M03-SW-005	29	1	29	5700	5600	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 63	\$ 18	\$ 19	\$ 0	\$ 184	4620	1080	\$ 249	\$-65
M03-SW-005	29	1	29	5700	5600	C	GRAV	1.53	.65	2.35	\$ 285	\$ 107	\$ 5	\$ 27	\$ 0	\$ 144	4620	1080	\$ 238	\$-93

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 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

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PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****				***** PRELIM. OFF-FARM WATER COST *****			RESIDUAL PRELIM PAYMENT CAPACITY			
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM. PAYMENT CAPACITY		WATER SOURCE ELEV.	STATIC LIFT	ANNUAL POWER COST/ACRE
M03-SW-006	15	1	15	5660	5600	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 51 \$ 7 \$ 27 \$ 0	\$ 198	4620	1040	\$ 241	\$-42
M03-SW-006	15	1	15	5660	5600	C	SOROLL	1.53	.7	2.18	\$ 285	\$ 94 \$ 29 \$ 19 \$ 0	\$ 141	4620	1040	\$ 241	\$-99
M03-SW-006	15	1	15	5660	5600	C	GRAV	1.53	.65	2.35	\$ 285	\$ 116 \$ 7 \$ 27 \$ 0	\$ 133	4620	1040	\$ 229	\$-95
M03-SW-007	20	1	20	5780	5720	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 40 \$ 5 \$ 27 \$ 0	\$ 211	4620	1160	\$ 265	\$-53
M03-SW-007	20	1	20	5780	5720	C	SOROLL	1.53	.7	2.18	\$ 285	\$ 69 \$ 19 \$ 19 \$ 0	\$ 176	4620	1160	\$ 265	\$-89
M03-SW-007	20	1	20	5780	5720	C	GRAV	1.53	.65	2.35	\$ 285	\$ 104 \$ 5 \$ 27 \$ 0	\$ 147	4620	1160	\$ 255	\$-108
M03-SW-008	12	1	12	5720	5690	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 57 \$ 8 \$ 27 \$ 0	\$ 191	4620	1100	\$ 253	\$-62
M03-SW-008	12	1	12	5720	5690	C	SOROLL	1.53	.7	2.18	\$ 285	\$ 109 \$ 35 \$ 19 \$ 0	\$ 121	4620	1100	\$ 253	\$-132
M03-SW-008	12	1	12	5720	5690	C	GRAV	1.53	.65	2.35	\$ 285	\$ 123 \$ 8 \$ 27 \$ 0	\$ 126	4620	1100	\$ 242	\$-116
M03-SW-009	28	1	28	5700	5640	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 97 \$ 5 \$ 27 \$ 0	\$ 214	4620	1080	\$ 249	\$-34
M03-SW-009	28	1	28	5700	5640	C	SOROLL	1.53	.7	2.18	\$ 285	\$ 63 \$ 18 \$ 19 \$ 0	\$ 183	4620	1080	\$ 249	\$-66
M03-SW-009	28	1	28	5700	5640	C	GRAV	1.53	.65	2.35	\$ 285	\$ 107 \$ 5 \$ 27 \$ 0	\$ 144	4620	1080	\$ 238	\$-93
M03-SW-010	24	1	24	5720	5680	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 39 \$ 5 \$ 27 \$ 0	\$ 213	4620	1100	\$ 253	\$-40
M03-SW-010	24	1	24	5720	5680	C	SOROLL	1.53	.7	2.18	\$ 285	\$ 66 \$ 19 \$ 19 \$ 0	\$ 179	4620	1100	\$ 253	\$-73
M03-SW-010	24	1	24	5720	5680	C	GRAV	1.53	.65	2.35	\$ 285	\$ 105 \$ 5 \$ 27 \$ 0	\$ 145	4620	1100	\$ 242	\$-96

COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

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PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM PAYMENT CAPACITY		
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	LOW	CLIMATIC ZONE	IRRIG SYSTEM TYPE	NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV		STATIC LIFT	ANNUAL POWER COST/ACRE
M03-SW-011	22	1	22	5660	5600	C	HMDHVE	1.53	7	2.18	\$ 285	\$ 39 \$ 5 \$ 27 \$ 0	\$ 212	4620	1040	\$ 241	\$-28
M03-SW-011	22	1	22	5640	5600	C	SDROLL	1.53	7	2.18	\$ 285	\$ 67 \$ 19 \$ 19 \$ 0	\$ 178	4620	1040	\$ 241	\$-63
M03-SW-011	22	1	22	5660	5600	C	GRAV	1.53	.65	2.35	\$ 285	\$ 105 \$ 5 \$ 27 \$ 0	\$ 146	4620	1040	\$ 229	\$-82
M03-SW-012	31	1	31	5710	5640	C	HMDHVE	1.53	7	2.18	\$ 285	\$ 36 \$ 4 \$ 27 \$ 0	\$ 215	4620	1090	\$ 251	\$-35
M03-SW-012	31	1	31	5710	5640	C	SDROLL	1.53	7	2.18	\$ 285	\$ 61 \$ 17 \$ 19 \$ 0	\$ 185	4620	1090	\$ 251	\$-65
M03-SW-012	31	1	31	5710	5640	C	GRAV	1.53	.65	2.35	\$ 285	\$ 108 \$ 5 \$ 27 \$ 0	\$ 143	4620	1090	\$ 240	\$-96
M03-SW-013	17	1	17	5580	5520	C	HMDHVE	1.53	7	2.18	\$ 285	\$ 46 \$ 6 \$ 27 \$ 0	\$ 204	4620	960	\$ 224	\$-20
M03-SW-013	17	1	17	5580	5520	C	SDROLL	1.53	7	2.18	\$ 285	\$ 84 \$ 25 \$ 19 \$ 0	\$ 153	4620	960	\$ 224	\$-69
M03-SW-013	17	1	17	5580	5520	C	GRAV	1.53	.65	2.35	\$ 285	\$ 111 \$ 6 \$ 27 \$ 0	\$ 139	4620	960	\$ 211	\$-72
M03-SW-014	8	1	8	5620	5590	C	HMDHVE	1.53	.7	2.18	\$ 285	\$ 74 \$ 11 \$ 29 \$ 0	\$ 169	4620	1000	\$ 233	\$-63
M03-SW-014	8	1	8	5620	5590	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 134 \$ 53 \$ 22 \$ 0	\$ 54	4620	1000	\$ 233	\$-178
M03-SW-014	8	1	8	5620	5590	C	GRAV	1.53	.65	2.35	\$ 285	\$ 138 \$ 11 \$ 24 \$ 0	\$ 110	4620	1000	\$ 220	\$-109
M03-SW-015	15	1	15	5580	5540	C	HMDHVE	1.53	.7	2.18	\$ 285	\$ 51 \$ 7 \$ 27 \$ 0	\$ 198	4620	960	\$ 224	\$-25
M03-SW-015	15	1	15	5580	5540	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 94 \$ 29 \$ 19 \$ 0	\$ 141	4620	960	\$ 224	\$-82
M03-SW-015	15	1	15	5580	5540	C	GRAV	1.53	.65	2.35	\$ 285	\$ 114 \$ 7 \$ 27 \$ 0	\$ 133	4620	960	\$ 211	\$-77

COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM OFF-FARM WATER COST			RESIDUAL PRELIM PAYMENT CAPACITY		
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	EFF	APPLIED	PRELIMINARY NET AG. RETURN	*** ON-FARM IRRIG CAPITAL	COSTS *** MAINT. LABOR PUMPING	PRELIM. PAYMENT CAPACITY		WATER SOURCE ELEV.	STATIC LIFT
M03-SW-016	11	1	11	5540	5500	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 59 \$ 9 \$ 27 \$ 0	\$ 188	4620	920	\$ 216	\$-28
M03-SW-016	11	1	11	5540	5500	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 114 \$ 36 \$ 19 \$ 0	\$ 114	4620	920	\$ 216	\$-102
M03-SW-016	11	1	11	5540	5500	C	GRAV	1.53	.65	2.35	\$ 285	\$ 123 \$ 9 \$ 27 \$ 0	\$ 123	4620	920	\$ 202	\$-79
M03-SW-017	38	1	38	5440	5400	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 34 \$ 4 \$ 27 \$ 0	\$ 218	4620	820	\$ 196	\$ 22
M03-SW-017	38	1	38	5440	5400	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 57 \$ 16 \$ 19 \$ 0	\$ 191	4620	820	\$ 196	\$-4
M03-SW-017	38	1	38	5440	5400	C	GRAV	1.53	.65	2.35	\$ 285	\$ 110 \$ 6 \$ 27 \$ 0	\$ 141	4620	820	\$ 180	\$-39
M06-SW-018	3375	.97	3273.7	5560	5000	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 35 \$ 4 \$ 31 \$ 0	\$ 258	4620	940	\$ 259	\$-1
M06-SW-018	3375	.97	3273.7	5560	5000	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 58 \$ 16 \$ 14 \$ 0	\$ 240	4620	940	\$ 259	\$-18
M06-SW-018	3375	.97	3273.7	5560	5000	B	GRAV	1.8	.65	2.76	\$ 330	\$ 118 \$ 6 \$ 31 \$ 0	\$ 174	4620	940	\$ 243	\$-69
M06-SW-018	3375	.83	2811.3	5560	5000	B	CMTRPVT	1.8	.75	2.39	\$ 330	\$ 63 \$ 24 \$ 2 \$ 8	\$ 231	4620	940	\$ 242	\$-10
M06-SW-018	3375	.97	3302.4	5560	5000	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 59 \$ 21 \$ 6 \$ 20	\$ 222	4620	940	\$ 244	\$-22
M06-SW-018a	7	1	7	5660	5600	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 80 \$ 12 \$ 29 \$ 0	\$ 161	4620	1040	\$ 241	\$-79
M06-SW-018a	7	1	7	5660	5600	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 172 \$ 60 \$ 22 \$ 0	\$ 29	4620	1040	\$ 241	\$-211
M06-SW-018a	7	1	7	5660	5600	C	GRAV	1.53	.65	2.35	\$ 285	\$ 144 \$ 12 \$ 24 \$ 0	\$ 103	4620	1040	\$ 229	\$-125
M06-SW-019	521	.97	505.3	5420	5160	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 35 \$ 4 \$ 31 \$ 0	\$ 258	4620	800	\$ 226	\$ 32
M06-SW-019	521	.97	505.3	5420	5160	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 58 \$ 16 \$ 14 \$ 0	\$ 240	4620	800	\$ 226	\$ 14
M06-SW-019	521	.97	505.3	5420	5160	B	GRAV	1.8	.65	2.76	\$ 330	\$ 118 \$ 6 \$ 31 \$ 0	\$ 174	4620	800	\$ 207	\$-33
M06-SW-019	521	.83	433.9	5420	5160	B	CMTRPVT	1.8	.75	2.39	\$ 330	\$ 63 \$ 24 \$ 2 \$ 8	\$ 231	4620	800	\$ 210	\$ 20
M06-SW-019	521	.98	511.3	5420	5160	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 58 \$ 21 \$ 6 \$ 20	\$ 222	4620	800	\$ 213	\$ 9

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****					PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM PAYMENT CAPACITY		
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV.		STATIC LIFT	ANNUAL POWER COST/ACRE
M06-SW-020	9	1	9	5560	5530	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 68 \$ 10 \$ 29 \$ 0	\$ 176	4620	940	\$ 220	\$-44
M06-SW-020	9	1	9	5560	5530	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 137 \$ 45 \$ 22 \$ 0	\$ 79	4620	940	\$ 220	\$-141
M06-SW-020	9	1	9	5560	5530	C	GRAV	1.53	.65	2.35	\$ 285	\$ 133 \$ 10 \$ 24 \$ 0	\$ 117	4620	940	\$ 207	\$-89
M06-SW-021	5	1	5	5420	5400	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 92 \$ 15 \$ 29 \$ 0	\$ 147	4620	800	\$ 192	\$-44
M06-SW-021	5	1	5	5420	5400	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 208 \$ 74 \$ 22 \$ 0	\$-19	4620	800	\$ 192	\$-212
M06-SW-021	5	1	5	5420	5400	C	GRAV	1.53	.65	2.35	\$ 285	\$ 155 \$ 14 \$ 24 \$ 0	\$ 90	4620	800	\$ 176	\$-85
M06-SW-022	1934	.97	1875.9	5600	5020	B	HNDMVE	1.8	.7	2.57	\$ 330	\$ 35 \$ 4 \$ 31 \$ 0	\$ 258	4620	980	\$ 269	\$-10
M06-SW-022	1934	.97	1875.9	5600	5020	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 58 \$ 16 \$ 14 \$ 0	\$ 240	4620	980	\$ 269	\$-28
M06-SW-022	1934	.97	1875.9	5600	5020	B	GRAV	1.8	.65	2.76	\$ 330	\$ 118 \$ 6 \$ 31 \$ 0	\$ 174	4620	980	\$ 254	\$-79
M06-SW-022	1934	.89	1611	5600	5020	B	ENTRPVT	1.8	.75	2.39	\$ 330	\$ 63 \$ 24 \$ 2 \$ 8	\$ 231	4620	980	\$ 251	\$-19
M06-SW-022	1934	.98	1895.3	5600	5020	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 59 \$ 21 \$ 6 \$ 20	\$ 222	4620	980	\$ 254	\$-31
M06-SW-022a	9	1	9	5380	5360	B	HNDMVE	1.8	.7	2.57	\$ 330	\$ 68 \$ 10 \$ 35 \$ 0	\$ 216	4620	760	\$ 216	\$ 0
M06-SW-022a	9	1	9	5380	5360	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 137 \$ 45 \$ 26 \$ 0	\$ 120	4620	760	\$ 216	\$-95
M06-SW-022a	9	1	9	5380	5360	B	GRAV	1.8	.65	2.76	\$ 330	\$ 133 \$ 10 \$ 28 \$ 0	\$ 157	4620	760	\$ 197	\$-39
M06-SW-022b	12	1	12	5140	5120	B	HNDMVE	1.8	.7	2.57	\$ 330	\$ 57 \$ 8 \$ 32 \$ 0	\$ 231	4620	520	\$ 158	\$ 72
M06-SW-022b	12	1	12	5140	5120	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 109 \$ 35 \$ 22 \$ 0	\$ 162	4620	520	\$ 158	\$ 4
M06-SW-022b	12	1	12	5140	5120	B	GRAV	1.8	.65	2.76	\$ 330	\$ 129 \$ 8 \$ 32 \$ 0	\$ 166	4620	520	\$ 134	\$ 31

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS *****							***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM. OFF-FARM WATER COST				RESIDUAL PRELIM. PAYMENT CAPACITY
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG RETURN	***** ON-FARM IRRIG. COSTS *****				PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV.	STATIC LIFT	ANNUAL POWER COST/ACRE	
M06-SW-022c	6	1	6	5120	5090	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 86	\$ 14	\$ 35	\$ 0	\$ 194	4620	500	\$ 153	\$ 40
M06-SW-022c	6	1	6	5120	5090	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 190	\$ 67	\$ 26	\$ 0	\$ 46	4620	500	\$ 153	\$-107
M06-SW-022c	6	1	6	5120	5090	B	GRAV	1.8	.65	2.76	\$ 330	\$ 150	\$ 13	\$ 28	\$ 0	\$ 138	4620	500	\$ 129	\$ 8
M06-SW-023	20	1	20	5380	5320	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 40	\$ 5	\$ 32	\$ 0	\$ 251	4620	760	\$ 216	\$ 35
M06-SW-023	20	1	20	5380	5320	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 69	\$ 19	\$ 22	\$ 0	\$ 218	4620	760	\$ 216	\$ 1
M06-SW-023	20	1	20	5380	5320	B	GRAV	1.8	.65	2.76	\$ 330	\$ 104	\$ 5	\$ 32	\$ 0	\$ 187	4620	760	\$ 197	\$-9
M06-SW-024	53	.99	52.4	5280	5190	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 34	\$ 4	\$ 31	\$ 0	\$ 260	4620	660	\$ 192	\$ 67
M06-SW-024	53	.99	52.4	5280	5190	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 55	\$ 16	\$ 14	\$ 0	\$ 243	4620	660	\$ 192	\$ 51
M06-SW-024	53	.99	52.4	5280	5190	B	GRAV	1.8	.65	2.76	\$ 330	\$ 112	\$ 6	\$ 31	\$ 0	\$ 179	4620	660	\$ 171	\$ 8
M06-SW-024	53	.93	44.1	5280	5190	B	CMTRPVT	1.8	.75	2.39	\$ 330	\$ 126	\$ 51	\$ 7	\$ 26	\$ 118	4620	660	\$ 179	\$-61
M06-SW-024	53	.98	52	5280	5190	B	CPVT/HNV	1.8	.74	2.42	\$ 330	\$ 118	\$ 45	\$ 11	\$ 26	\$ 127	4620	660	\$ 181	\$-53
M06-SW-025	7	1	7	5250	5200	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 80	\$ 12	\$ 35	\$ 0	\$ 201	4620	630	\$ 185	\$ 16
M06-SW-025	7	1	7	5250	5200	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 172	\$ 60	\$ 24	\$ 0	\$ 70	4620	630	\$ 185	\$-114
M06-SW-025	7	1	7	5250	5200	B	GRAV	1.8	.65	2.76	\$ 330	\$ 144	\$ 12	\$ 28	\$ 0	\$ 144	4620	630	\$ 163	\$-18
M06-SW-026	10	1	10	5220	5180	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 62	\$ 9	\$ 32	\$ 0	\$ 226	4620	600	\$ 177	\$ 48
M06-SW-026	10	1	10	5220	5180	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 119	\$ 38	\$ 22	\$ 0	\$ 148	4620	600	\$ 177	\$-28
M06-SW-026	10	1	10	5220	5180	B	GRAV	1.8	.65	2.76	\$ 330	\$ 127	\$ 9	\$ 32	\$ 0	\$ 160	4620	600	\$ 155	\$ 5

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****					PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM PAYMENT CAPACITY		
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AC RETURN	*** ON-FARM IRRIG COSTS ***	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV		STATIC LIFT	ANNUAL POWER COST/ACRE
M06-SW-027	37	1	37	5140	5100	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 34 \$ 4 \$ 32 \$ 0	\$ 258	4620	520	\$ 158	\$ 99
M06-SW-027	37	1	37	5140	5100	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 57 \$ 16 \$ 22 \$ 0	\$ 292	4620	520	\$ 158	\$ 74
M06-SW-027	37	1	37	5140	5100	B	GRAV	1.8	.65	2.76	\$ 330	\$ 109 \$ 5 \$ 32 \$ 0	\$ 181	4620	520	\$ 134	\$ 47
M06-SW-028	101	.99	99.9	5100	5000	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 35 \$ 4 \$ 31 \$ 0	\$ 258	4620	480	\$ 148	\$ 109
M06-SW-028	101	.99	99.9	5100	5000	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 53 \$ 16 \$ 14 \$ 0	\$ 244	4620	480	\$ 148	\$ 95
M06-SW-028	101	.99	99.9	5100	5000	B	GRAV	1.8	.65	2.76	\$ 330	\$ 117 \$ 6 \$ 31 \$ 0	\$ 174	4620	480	\$ 124	\$ 50
M06-SW-028	101	.83	84.1	5100	5000	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 90 \$ 35 \$ 4 \$ 20	\$ 178	4620	480	\$ 139	\$ 39
M06-SW-028	101	.98	99.2	5100	5000	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 84 \$ 31 \$ 8 \$ 20	\$ 185	4620	480	\$ 140	\$ 44
M06-SW-029	15	1	15	5040	5010	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 51 \$ 7 \$ 32 \$ 0	\$ 239	4620	420	\$ 134	\$ 104
M06-SW-029	15	1	15	5040	5010	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 94 \$ 29 \$ 22 \$ 0	\$ 183	4620	420	\$ 134	\$ 48
M06-SW-029	15	1	15	5040	5010	B	GRAV	1.8	.65	2.76	\$ 330	\$ 116 \$ 7 \$ 32 \$ 0	\$ 174	4620	420	\$ 108	\$ 65
M06-SW-030	118	.99	116.8	5120	4980	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 37 \$ 4 \$ 31 \$ 0	\$ 257	4620	500	\$ 133	\$ 104
M06-SW-030	118	.99	116.8	5120	4980	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 52 \$ 16 \$ 14 \$ 0	\$ 246	4620	500	\$ 153	\$ 92
M06-SW-030	118	.99	116.8	5120	4980	B	GRAV	1.8	.65	2.76	\$ 330	\$ 117 \$ 6 \$ 31 \$ 0	\$ 174	4620	500	\$ 129	\$ 44
M06-SW-030	118	.83	98.2	5120	4980	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 78 \$ 30 \$ 3 \$ 17	\$ 200	4620	500	\$ 143	\$ 56
M06-SW-030	118	.98	115.9	5120	4980	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 73 \$ 26 \$ 7 \$ 17	\$ 204	4620	500	\$ 145	\$ 59
M06-SW-031	56	.99	55.4	5060	5000	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 34 \$ 4 \$ 31 \$ 0	\$ 260	4620	440	\$ 139	\$ 120
M06-SW-031	56	.99	55.4	5060	5000	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 55 \$ 16 \$ 14 \$ 0	\$ 243	4620	440	\$ 139	\$ 104
M06-SW-031	56	.99	55.4	5060	5000	B	GRAV	1.8	.65	2.76	\$ 330	\$ 113 \$ 6 \$ 31 \$ 0	\$ 178	4620	440	\$ 114	\$ 64
M06-SW-031	56	.83	46.6	5060	5000	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 124 \$ 50 \$ 7 \$ 26	\$ 121	4620	440	\$ 130	\$ -8
M06-SW-031	56	.98	55	5060	5000	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 116 \$ 44 \$ 11 \$ 26	\$ 131	4620	440	\$ 131	\$ 0

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

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PARCEL I D.	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****						PRELIM. OFF-FARM WATER COST							
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM CAPITAL	IRRIG. MAINT	IRRTG. COSTS LABOR	***** PUMPING	PRELIM PAYMENT CAPACITY	WATER SOURCE ELEV	STATIC LIFT	ANNUAL POWER COST/ACRE	RESIDUAL PRELIM. PAYMENT CAPACITY
M06-SW-032	17	1	17	5050	5020	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 46	\$ 6	\$ 32	\$ 0	\$ 244	4620	430	\$ 136	\$ 107
M06-SW-032	17	1	17	5050	5020	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 84	\$ 25	\$ 22	\$ 0	\$ 197	4620	430	\$ 136	\$ 60
M06-SW-032	17	1	17	5050	5020	B	GRAV	1.8	.65	2.76	\$ 330	\$ 111	\$ 6	\$ 32	\$ 0	\$ 179	4620	430	\$ 111	\$ 67
M06-SW-033	15	1	15	5030	5000	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 51	\$ 7	\$ 32	\$ 0	\$ 239	4620	410	\$ 132	\$ 106
M06-SW-033	15	1	15	5030	5000	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 94	\$ 29	\$ 22	\$ 0	\$ 183	4620	410	\$ 132	\$ 51
M06-SW-033	15	1	15	5030	5000	B	GRAV	1.8	.65	2.76	\$ 330	\$ 116	\$ 7	\$ 32	\$ 0	\$ 174	4620	410	\$ 106	\$ 67
M06-SW-034	28	1	28	5030	5000	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 37	\$ 5	\$ 32	\$ 0	\$ 254	4620	410	\$ 132	\$ 122
M06-SW-034	28	1	28	5030	5000	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 63	\$ 18	\$ 22	\$ 0	\$ 224	4620	410	\$ 132	\$ 92
M06-SW-034	28	1	28	5030	5000	B	GRAV	1.8	.65	2.76	\$ 330	\$ 107	\$ 5	\$ 32	\$ 0	\$ 184	4620	410	\$ 106	\$ 78
M06-SW-035	136	.99	134.6	4990	4900	A	HNDHVE	2	.7	2.85	\$ 375	\$ 36	\$ 4	\$ 34	\$ 0	\$ 299	4620	370	\$ 136	\$ 163
M06-SW-035	136	.99	134.6	4990	4900	A	SDROLL	2	.7	2.85	\$ 375	\$ 58	\$ 16	\$ 16	\$ 0	\$ 284	4620	370	\$ 136	\$ 148
M06-SW-035	136	.99	134.6	4990	4900	A	GRAV	2	.65	3.07	\$ 375	\$ 117	\$ 6	\$ 34	\$ 0	\$ 215	4620	370	\$ 106	\$ 109
M06-SW-035	136	.83	113.2	4990	4900	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 70	\$ 26	\$ 3	\$ 7	\$ 267	4620	370	\$ 127	\$ 140
M06-SW-035	136	.98	133.6	4990	4900	A	CPVT/HMV	2	.74	2.69	\$ 375	\$ 65	\$ 23	\$ 8	\$ 20	\$ 257	4620	370	\$ 128	\$ 128
M06-SW-036	135	.99	133.6	4980	4920	A	HNDHVE	2	.7	2.85	\$ 375	\$ 36	\$ 4	\$ 34	\$ 0	\$ 299	4620	360	\$ 133	\$ 166
M06-SW-036	135	.99	133.6	4980	4920	A	SDROLL	2	.7	2.85	\$ 375	\$ 58	\$ 16	\$ 16	\$ 0	\$ 284	4620	360	\$ 133	\$ 150
M06-SW-036	135	.99	133.6	4980	4920	A	GRAV	2	.65	3.07	\$ 375	\$ 117	\$ 6	\$ 34	\$ 0	\$ 215	4620	360	\$ 109	\$ 112
M06-SW-036	135	.83	112.4	4980	4920	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 70	\$ 26	\$ 3	\$ 7	\$ 266	4620	360	\$ 124	\$ 142
M06-SW-036	135	.98	132.7	4980	4920	A	CPVT/HMV	2	.74	2.69	\$ 375	\$ 65	\$ 23	\$ 8	\$ 20	\$ 256	4620	360	\$ 125	\$ 130

COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

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PARCEL I.D.	***** ACREAGE *****				***** WATER REQUIREMENTS PER ACRE *****						***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****				PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM. PAYMENT CAPACITY
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	NET FEET	IRRIG. EFF.	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG COSTS *****	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV.	STATIC LIFT	ANNUAL POWER COST/ACRE		
M06-SW-037	89	.99	88.1	4930	4860	A	HNDHVE	2	7	2.85	\$ 375	\$ 35 \$ 4 \$ 34 \$ 0	\$ 300	4620	310	\$ 120	\$ 180	
M06-SW-037	89	.99	88.1	4930	4860	A	SDROLL	2	7	2.85	\$ 375	\$ 54 \$ 16 \$ 16 \$ 0	\$ 287	4620	310	\$ 120	\$ 167	
M06-SW-037	89	.99	88.1	4930	4860	A	GRAV	2	.65	3.07	\$ 375	\$ 114 \$ 7 \$ 34 \$ 0	\$ 216	4620	310	\$ 89	\$ 126	
M06-SW-037	89	.83	74.1	4930	4860	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 99 \$ 39 \$ 5 \$ 24	\$ 205	4620	310	\$ 112	\$ 93	
M06-SW-037	89	.98	87.4	4930	4860	A	CPVT/HMV	2	.74	2.69	\$ 375	\$ 92 \$ 34 \$ 10 \$ 24	\$ 212	4620	310	\$ 113	\$ 99	
M06-SW-038	10	1	10	4940	4920	A	HNDHVE	2	.7	2.85	\$ 375	\$ 62 \$ 9 \$ 36 \$ 0	\$ 267	4620	320	\$ 122	\$ 144	
M06-SW-038	10	1	10	4940	4920	A	SDROLL	2	.7	2.85	\$ 375	\$ 119 \$ 38 \$ 25 \$ 0	\$ 191	4620	320	\$ 122	\$ 68	
M06-SW-038	10	1	10	4940	4920	A	GRAV	2	.65	3.07	\$ 375	\$ 127 \$ 9 \$ 35 \$ 0	\$ 202	4620	320	\$ 92	\$ 110	
M06-SW-039	13	1	13	4880	4800	A	HNDHVE	2	.7	2.85	\$ 375	\$ 55 \$ 8 \$ 34 \$ 0	\$ 275	4620	260	\$ 106	\$ 168	
M06-SW-039	13	1	13	4880	4800	A	SDROLL	2	.7	2.85	\$ 375	\$ 104 \$ 33 \$ 25 \$ 0	\$ 212	4620	260	\$ 106	\$ 105	
M06-SW-039	13	1	13	4880	4800	A	GRAV	2	.65	3.07	\$ 375	\$ 120 \$ 8 \$ 35 \$ 0	\$ 210	4620	260	\$ 74	\$ 135	
M06-SW-040	23	1	23	4880	4860	A	HNDHVE	2	.7	2.85	\$ 375	\$ 39 \$ 5 \$ 36 \$ 0	\$ 294	4620	260	\$ 106	\$ 187	
M06-SW-040	23	1	23	4880	4860	A	SDROLL	2	.7	2.85	\$ 375	\$ 67 \$ 19 \$ 25 \$ 0	\$ 263	4620	260	\$ 106	\$ 156	
M06-SW-040	23	1	23	4880	4860	A	GRAV	2	.65	3.07	\$ 375	\$ 105 \$ 5 \$ 35 \$ 0	\$ 227	4620	260	\$ 74	\$ 152	
M06-SW-041	16	1	16	4880	4860	A	HNDHVE	2	.7	2.85	\$ 375	\$ 49 \$ 4 \$ 36 \$ 0	\$ 283	4620	260	\$ 106	\$ 176	
M06-SW-041	16	1	16	4880	4860	A	SDROLL	2	.7	2.85	\$ 375	\$ 89 \$ 27 \$ 25 \$ 0	\$ 232	4620	260	\$ 106	\$ 126	
M06-SW-041	16	1	16	4880	4860	A	GRAV	2	.65	3.07	\$ 375	\$ 113 \$ 7 \$ 35 \$ 0	\$ 218	4620	260	\$ 74	\$ 143	

COLORADO UTE AGRICULTURAL ENGINEERING STUDY
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PARCEL I D	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****					***** PRELIM OFF-FARM WATER COST *****			RESIDUAL PRELIM. PAYMENT CAPACITY		
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM PAYMENT CAPACITY	WATER SOURCE ELEV.		STATIC LIFT	ANNUAL POWER COST/ACRE
M06-SW-042	12	1	12	4870	4840	A	HNDMVE	2	.7	2.85	\$ 375	\$ 57 \$ 8 \$ 36 \$ 0	\$ 272	4620	250	\$ 103	\$ 168
M06-SW-042	12	1	12	4870	4840	A	SDROLL	2	.7	2.85	\$ 375	\$ 109 \$ 35 \$ 25 \$ 0	\$ 205	4620	250	\$ 103	\$ 101
M06-SW-042	12	1	12	4870	4840	A	GRAV	2	.65	3.07	\$ 375	\$ 129 \$ 8 \$ 35 \$ 0	\$ 207	4620	250	\$ 72	\$ 135
M06-SW-043	54	.99	53.4	4860	4840	A	HNDMVE	2	.7	2.85	\$ 375	\$ 34 \$ 4 \$ 34 \$ 0	\$ 301	4620	240	\$ 101	\$ 200
M06-SW-043	54	.99	53.4	4860	4840	A	SDROLL	2	.7	2.85	\$ 375	\$ 55 \$ 16 \$ 16 \$ 0	\$ 286	4620	240	\$ 101	\$ 185
M06-SW-043	54	.99	53.4	4860	4840	A	GRAV	2	.65	3.07	\$ 375	\$ 112 \$ 6 \$ 34 \$ 0	\$ 220	4620	240	\$ 69	\$ 151
M06-SW-043	54	.83	44.9	4860	4840	A	CNTRPUT	2	.75	2.66	\$ 375	\$ 125 \$ 50 \$ 8 \$ 29	\$ 160	4620	240	\$ 94	\$ 66
M06-SW-043	54	.98	53	4860	4840	A	CPVT/HMV	2	.74	2.69	\$ 375	\$ 118 \$ 44 \$ 12 \$ 29	\$ 169	4620	240	\$ 95	\$ 74
M06-SW-044	135	.99	133.6	5680	5520	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 36 \$ 4 \$ 26 \$ 0	\$ 217	4620	1060	\$ 245	\$-27
M06-SW-044	135	.99	133.6	5680	5520	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 58 \$ 16 \$ 12 \$ 0	\$ 197	4620	1060	\$ 245	\$-47
M06-SW-044	135	.99	133.6	5680	5520	C	GRAV	1.53	.65	2.35	\$ 285	\$ 117 \$ 6 \$ 26 \$ 0	\$ 134	4620	1060	\$ 233	\$-99
M06-SW-044	135	.83	112.4	5680	5520	C	CNTRPUT	1.53	.75	2.04	\$ 285	\$ 70 \$ 26 \$ 2 \$ 7	\$ 177	4620	1060	\$ 228	\$-51
M06-SW-044	135	.98	132.7	5680	5520	C	CPVT/HMV	1.53	.74	2.06	\$ 285	\$ 65 \$ 23 \$ 6 \$ 15	\$ 173	4620	1060	\$ 231	\$-37
M06-SW-045	22	1	22	5800	5720	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 39 \$ 5 \$ 27 \$ 0	\$ 212	4620	1180	\$ 269	\$-57
M06-SW-045	22	1	22	5800	5720	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 67 \$ 19 \$ 19 \$ 0	\$ 178	4620	1180	\$ 269	\$-91
M06-SW-045	22	1	22	5800	5720	C	GRAV	1.53	.65	2.35	\$ 285	\$ 105 \$ 5 \$ 27 \$ 0	\$ 146	4620	1180	\$ 260	\$-113
M06-SW-046	6	1	6	5770	5760	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 86 \$ 14 \$ 29 \$ 0	\$ 154	4620	1150	\$ 263	\$-109
M06-SW-046	6	1	6	5770	5760	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 190 \$ 67 \$ 22 \$ 0	\$ 4	4620	1150	\$ 263	\$-258
M06-SW-046	6	1	6	5770	5760	C	GRAV	1.53	.65	2.35	\$ 285	\$ 150 \$ 13 \$ 24 \$ 0	\$ 97	4620	1150	\$ 253	\$-156

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I D	***** ACREAGE *****			***** WATER REQUIREMENTS *****							***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM. PAYMENT CAPACITY	
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF.	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG CAPITAL	***** COSTS *****	LABOR	PUMPING	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV	STATIC LIFT		ANNUAL POWER COST/ACRE
M06-SW-047	20	1	20	5600	5560	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 40	\$ 5	\$ 27	\$ 0	\$ 211	4620	980	\$ 228	\$-17
M06-SW-047	20	1	20	5600	5560	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 69	\$ 19	\$ 19	\$ 0	\$ 176	4620	980	\$ 228	\$-52
M06-SW-047	20	1	20	5600	5560	C	GRAV	1.53	.65	2.35	\$ 285	\$ 104	\$ 5	\$ 27	\$ 0	\$ 147	4620	980	\$ 216	\$-68
M06-SW-048	38	1	38	5600	5520	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 34	\$ 4	\$ 27	\$ 0	\$ 218	4620	980	\$ 228	\$-10
M06-SW-048	38	1	38	5600	5520	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 57	\$ 16	\$ 19	\$ 0	\$ 191	4620	980	\$ 228	\$-37
M06-SW-048	38	1	38	5600	5520	C	GRAV	1.53	.65	2.35	\$ 285	\$ 110	\$ 6	\$ 27	\$ 0	\$ 141	4620	980	\$ 216	\$-74
M06-SW-049	22	1	22	5580	5530	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 39	\$ 5	\$ 27	\$ 0	\$ 212	4620	960	\$ 224	\$-12
M06-SW-049	22	1	22	5580	5530	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 67	\$ 19	\$ 19	\$ 0	\$ 178	4620	960	\$ 224	\$-46
M06-SW-049	22	1	22	5580	5530	C	GRAV	1.53	.65	2.35	\$ 285	\$ 105	\$ 5	\$ 27	\$ 0	\$ 146	4620	960	\$ 211	\$-65
M06-SW-050	11	1	11	5520	5480	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 59	\$ 9	\$ 27	\$ 0	\$ 188	4620	900	\$ 212	\$-24
M06-SW-050	11	1	11	5520	5480	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 114	\$ 36	\$ 19	\$ 0	\$ 114	4620	900	\$ 212	\$-98
M06-SW-050	11	1	11	5520	5480	C	GRAV	1.53	.65	2.35	\$ 285	\$ 125	\$ 9	\$ 27	\$ 0	\$ 123	4620	900	\$ 198	\$-75
M06-SW-051	123	.99	121.7	5520	5340	C	HNDHVE	1.53	.7	2.18	\$ 285	\$ 37	\$ 4	\$ 26	\$ 0	\$ 217	4620	900	\$ 212	\$ 4
M06-SW-051	123	.99	121.7	5520	5360	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 58	\$ 16	\$ 12	\$ 0	\$ 197	4620	900	\$ 212	\$-14
M06-SW-051	123	.99	121.7	5520	5360	C	GRAV	1.53	.65	2.35	\$ 285	\$ 117	\$ 6	\$ 26	\$ 0	\$ 134	4620	900	\$ 198	\$-64
M06-SW-051	123	.83	102.4	5520	5360	C	CNTRPVT	1.53	.75	2.04	\$ 285	\$ 74	\$ 28	\$ 2	\$ 7	\$ 172	4620	900	\$ 198	\$-26
M06-SW-051	123	.98	120.9	5520	5360	C	CPVT/HNV	1.53	.74	2.06	\$ 285	\$ 69	\$ 25	\$ 6	\$ 14	\$ 168	4620	900	\$ 200	\$-31

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS *****							***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM OFF-FARM WATER COST			RESIDUAL PRELIM PAYMENT CAPACITY	
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF.	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM CAPITAL	***** MAINT	***** LABOR	***** PUMPING	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV.	STATIC LIFT		ANNUAL POWER COST/ACRE
M06-SW-051a	16	1	16	5420	5380	B,C	HNDMVE	1.8	.7	2.57	\$ 330	\$ 49	\$ 6	\$ 32	\$ 0	\$ 241	4620	800	\$ 226	\$ 15
M06-SW-051a	16	1	16	5420	5380	B,C	SDROLL	1.8	.7	2.57	\$ 330	\$ 89	\$ 27	\$ 22	\$ 0	\$ 190	4620	800	\$ 226	\$-35
M06-SW-051a	16	1	16	5420	5380	B,C	GRAV	1.8	.65	2.76	\$ 330	\$ 119	\$ 7	\$ 32	\$ 0	\$ 176	4620	800	\$ 207	\$-30
M06-SW-052	54	.99	53.4	5480	5360	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 34	\$ 4	\$ 26	\$ 0	\$ 219	4620	860	\$ 204	\$ 15
M06-SW-052	54	.99	53.4	5480	5360	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 55	\$ 16	\$ 12	\$ 0	\$ 200	4620	860	\$ 204	\$-3
M06-SW-052	54	.99	53.4	5480	5360	C	GRAV	1.53	.65	2.35	\$ 285	\$ 112	\$ 6	\$ 26	\$ 0	\$ 138	4620	860	\$ 189	\$-50
M06-SW-052	54	.83	44.9	5480	5360	C	CNTRPVT	1.53	.75	2.04	\$ 285	\$ 125	\$ 50	\$ 6	\$ 22	\$ 79	4620	860	\$ 190	\$-111
M06-SW-052	54	.98	53	5480	5360	C	CPVT/HMV	1.53	.74	2.06	\$ 285	\$ 118	\$ 44	\$ 9	\$ 22	\$ 89	4620	860	\$ 192	\$-102
M06-SW-053	795	.97	771.1	5600	5320	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 35	\$ 4	\$ 26	\$ 0	\$ 218	4620	980	\$ 228	\$-10
M06-SW-053	795	.97	771.1	5600	5320	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 58	\$ 16	\$ 12	\$ 0	\$ 198	4620	980	\$ 228	\$-30
M06-SW-053	795	.97	771.1	5600	5320	C	GRAV	1.53	.65	2.35	\$ 285	\$ 118	\$ 6	\$ 26	\$ 0	\$ 133	4620	980	\$ 216	\$-82
M06-SW-053	795	.83	662.2	5600	5320	C	CNTRPVT	1.53	.75	2.04	\$ 285	\$ 63	\$ 24	\$ 2	\$ 8	\$ 186	4620	980	\$ 213	\$-26
M06-SW-053	795	.98	780.2	5600	5320	C	CPVT/HMV	1.53	.74	2.06	\$ 285	\$ 59	\$ 21	\$ 5	\$ 17	\$ 181	4620	980	\$ 216	\$-34
M06-SW-053a	26	1	26	5520	5480	C	HNDMVE	1.53	.7	2.18	\$ 285	\$ 38	\$ 5	\$ 27	\$ 0	\$ 213	4620	900	\$ 212	\$ 1
M06-SW-053a	26	1	26	5520	5480	C	SDROLL	1.53	.7	2.18	\$ 285	\$ 65	\$ 18	\$ 19	\$ 0	\$ 181	4620	900	\$ 212	\$-30
M06-SW-053a	26	1	26	5520	5480	C	GRAV	1.53	.65	2.35	\$ 285	\$ 104	\$ 5	\$ 27	\$ 0	\$ 145	4620	900	\$ 198	\$-33
M06-SW-054	391	.98	383.1	5480	5300	B	HNDMVE	1.8	.7	2.57	\$ 330	\$ 35	\$ 4	\$ 31	\$ 0	\$ 258	4620	860	\$ 240	\$ 18
M06-SW-054	391	.98	383.1	5480	5300	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 58	\$ 16	\$ 14	\$ 0	\$ 240	4620	860	\$ 240	\$ 0
M06-SW-054	391	.98	383.1	5480	5300	B	GRAV	1.8	.65	2.76	\$ 330	\$ 118	\$ 6	\$ 31	\$ 0	\$ 174	4620	860	\$ 223	\$-48
M06-SW-054	391	.83	325.7	5480	5300	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 63	\$ 24	\$ 2	\$ 8	\$ 231	4620	860	\$ 224	\$ 7
M06-SW-054	391	.98	383.7	5480	5300	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 58	\$ 21	\$ 6	\$ 20	\$ 222	4620	860	\$ 226	\$-4

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
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PARCEL I. D.	***** ACREAGE *****				***** WATER REQUIREMENTS *****							***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****				PRELIM OFF-FARM WATER COST			RESTORATION PRELIM PAYMENT CAPACITY	
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	CLIMATIC LOW	ZONE	IRRIG. SYSTEM TYPE	IRRIG NET FEET	EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM PAYMENT CAPACITY	WATER SOURCE ELEV.	STATIC LIFT	ANNUAL POWER COST/ACRE				
M06-SW-055	71	.99	70.2	5420	5310	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 34	\$ 4	\$ 31	\$ 0	\$ 259	4620	800	\$ 226	\$ 33
M06-SW-055	71	.99	70.2	5420	5310	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 55	\$ 16	\$ 14	\$ 0	\$ 243	4620	800	\$ 226	\$ 17
M06-SW-055	71	.99	70.2	5420	5310	B	GRAV	1.8	.65	2.76	\$ 330	\$ 115	\$ 6	\$ 31	\$ 0	\$ 176	4620	800	\$ 207	\$-31
M06-SW-055	71	.83	59.1	5420	5310	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 113	\$ 45	\$ 6	\$ 24	\$ 140	4620	800	\$ 210	\$-69
M06-SW-055	71	.98	69.7	5420	5310	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 105	\$ 39	\$ 10	\$ 24	\$ 150	4620	800	\$ 213	\$-62
M06-SW-056	166	.98	162.6	5360	5260	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 35	\$ 4	\$ 31	\$ 0	\$ 258	4620	740	\$ 211	\$ 47
M06-SW-056	166	.98	162.6	5360	5260	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 58	\$ 16	\$ 14	\$ 0	\$ 240	4620	740	\$ 211	\$ 29
M06-SW-056	166	.98	162.6	5360	5260	B	GRAV	1.8	.65	2.76	\$ 330	\$ 118	\$ 6	\$ 31	\$ 0	\$ 174	4620	740	\$ 191	\$-17
M06-SW-056	166	.83	138.2	5360	5260	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 63	\$ 24	\$ 2	\$ 8	\$ 231	4620	740	\$ 197	\$ 34
M06-SW-056	166	.98	163.1	5360	5260	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 59	\$ 21	\$ 7	\$ 20	\$ 221	4620	740	\$ 199	\$ 22
M06-SW-057	62	.99	61.3	5320	5260	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 34	\$ 4	\$ 31	\$ 0	\$ 260	4620	700	\$ 201	\$ 58
M06-SW-057	62	.99	61.3	5320	5260	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 55	\$ 16	\$ 14	\$ 0	\$ 243	4620	700	\$ 201	\$ 41
M06-SW-057	62	.99	61.3	5320	5260	B	GRAV	1.8	.65	2.76	\$ 330	\$ 114	\$ 6	\$ 31	\$ 0	\$ 177	4620	700	\$ 181	\$-3
M06-SW-057	62	.83	51.6	5320	5260	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 120	\$ 48	\$ 6	\$ 25	\$ 129	4620	700	\$ 188	\$-58
M06-SW-057	62	.98	60.9	5320	5260	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 111	\$ 42	\$ 11	\$ 25	\$ 139	4620	700	\$ 190	\$-51
M06-SW-058	50	.99	49.5	5300	5260	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 34	\$ 4	\$ 31	\$ 0	\$ 268	4620	680	\$ 197	\$ 63
M06-SW-058	50	.99	49.5	5300	5260	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 55	\$ 16	\$ 14	\$ 0	\$ 243	4620	680	\$ 197	\$ 46
M06-SW-058	50	.99	49.5	5300	5260	B	GRAV	1.8	.65	2.76	\$ 330	\$ 112	\$ 6	\$ 31	\$ 0	\$ 179	4620	680	\$ 176	\$ 3
M06-SW-058	50	.83	41.6	5300	5260	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 128	\$ 52	\$ 7	\$ 26	\$ 114	4620	680	\$ 183	\$-69
M06-SW-058	50	.98	49.1	5300	5260	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 121	\$ 46	\$ 11	\$ 26	\$ 124	4620	680	\$ 185	\$-61
M06-SW-059	24	1	24	5260	5220	B	HNDHVE	1.8	.7	2.57	\$ 330	\$ 39	\$ 5	\$ 32	\$ 0	\$ 253	4620	640	\$ 187	\$ 65
M06-SW-059	24	1	24	5260	5220	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 66	\$ 19	\$ 22	\$ 0	\$ 221	4620	640	\$ 187	\$ 34
M06-SW-059	24	1	24	5260	5220	B	GRAV	1.8	.65	2.76	\$ 330	\$ 105	\$ 5	\$ 32	\$ 0	\$ 186	4620	640	\$ 165	\$ 20

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I D	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****							***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****					PRELIM OFF-FARM WATER COST			RESIDUAL PRELIM PAYMENT CAPACITY	
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLINATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG COSTS *****	PRELIM PAYMENT CAPACITY	WATER SOURCE ELEV.	STATIC LIFT	ANNUAL POWER COST/ACRE				
M06-SW-060	18	1	18	5280	5250	B	HNDNVE	1.8	.7	2.57	\$ 330	\$ 44	\$ 6	\$ 32	\$ 0	\$ 246	4620	660	\$ 192	\$ 54
M06-SW-060	18	1	18	5280	5250	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 79	\$ 23	\$ 22	\$ 0	\$ 204	4620	660	\$ 192	\$ 11
M06-SW-060	18	1	18	5280	5250	B	GRAV	1.8	.65	2.76	\$ 330	\$ 109	\$ 6	\$ 32	\$ 0	\$ 182	4620	660	\$ 171	\$ 10
M06-SW-061	120	.99	118.8	5300	5240	B	HNDNVE	1.8	.7	2.57	\$ 330	\$ 37	\$ 4	\$ 31	\$ 0	\$ 257	4620	680	\$ 197	\$ 60
M06-SW-061	120	.99	118.8	5300	5240	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 52	\$ 16	\$ 14	\$ 0	\$ 246	4620	680	\$ 197	\$ 49
M06-SW-061	120	.99	118.8	5300	5240	B	GRAV	1.8	.65	2.76	\$ 330	\$ 117	\$ 6	\$ 31	\$ 0	\$ 174	4620	680	\$ 176	\$-1
M06-SW-061	120	.83	99.9	5300	5240	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 76	\$ 29	\$ 3	\$ 17	\$ 202	4620	680	\$ 183	\$ 19
M06-SW-061	120	.98	117.9	5300	5240	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 71	\$ 25	\$ 7	\$ 17	\$ 206	4620	680	\$ 185	\$ 21
M06-SW-061a	7	1	7	5240	5220	B	HNDNVE	1.8	.7	2.57	\$ 330	\$ 80	\$ 12	\$ 35	\$ 0	\$ 201	4620	620	\$ 182	\$ 18
M06-SW-061a	7	1	7	5240	5220	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 172	\$ 60	\$ 26	\$ 0	\$ 70	4620	620	\$ 182	\$-111
M06-SW-061a	7	1	7	5240	5220	B	GRAV	1.8	.65	2.76	\$ 330	\$ 144	\$ 12	\$ 28	\$ 0	\$ 144	4620	620	\$ 160	\$-16
M10-SW-062	162	.98	158.7	5240	5140	B	HNDNVE	1.8	.7	2.57	\$ 330	\$ 35	\$ 4	\$ 31	\$ 0	\$ 258	4620	620	\$ 182	\$ 75
M10-SW-062	162	.98	158.7	5240	5140	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 58	\$ 16	\$ 14	\$ 0	\$ 240	4620	620	\$ 182	\$ 58
M10-SW-062	162	.98	158.7	5240	5140	B	GRAV	1.8	.65	2.76	\$ 330	\$ 118	\$ 6	\$ 31	\$ 0	\$ 174	4620	620	\$ 160	\$ 13
M10-SW-062	162	.83	134.9	5240	5140	B	CNTRPVT	1.8	.75	2.39	\$ 330	\$ 63	\$ 24	\$ 2	\$ 8	\$ 231	4620	620	\$ 170	\$ 61
M10-SW-062	162	.98	159.2	5240	5140	B	CPVT/HMV	1.8	.74	2.42	\$ 330	\$ 59	\$ 21	\$ 7	\$ 20	\$ 221	4620	620	\$ 172	\$ 49
M10-SW-063	37	1	37	5130	5080	B	HNDNVE	1.8	.7	2.57	\$ 330	\$ 34	\$ 4	\$ 32	\$ 0	\$ 258	4620	510	\$ 156	\$ 101
M10-SW-063	37	1	37	5130	5080	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 57	\$ 16	\$ 22	\$ 0	\$ 232	4620	510	\$ 156	\$ 76
M10-SW-063	37	1	37	5130	5080	B	GRAV	1.8	.65	2.76	\$ 330	\$ 109	\$ 5	\$ 32	\$ 0	\$ 181	4620	510	\$ 132	\$ 49

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****					PRELIM. OFF-FARM WATER COST					
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	*** ON-FARM IRRIG. COSTS ***	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV	STATIC LIFT	ANNUAL POWER COST/ACRE	RESIDUAL PRELIM. PAYMENT CAPACITY
M10-SW-063a	6	1	6	5080	5060	B	HNDMVE	1.8	.7	2.57	\$ 330	\$ 86 \$ 14 \$ 35 \$ 0	\$ 194	4620	460	\$ 144	\$ 50
M10-SW-063a	6	1	6	5080	5060	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 190 \$ 67 \$ 26 \$ 0	\$ 46	4620	460	\$ 144	\$-98
M10-SW-063a	6	1	6	5080	5060	B	GRAV	1.8	.65	2.76	\$ 330	\$ 150 \$ 13 \$ 28 \$ 0	\$ 138	4620	460	\$ 119	\$ 18
M10-SW-064	15	1	15	5040	5020	B	HNDMVE	1.8	.7	2.57	\$ 330	\$ 51 \$ 7 \$ 32 \$ 0	\$ 239	4620	420	\$ 134	\$ 104
M10-SW-064	15	1	15	5040	5020	B	SDROLL	1.8	.7	2.57	\$ 330	\$ 94 \$ 29 \$ 22 \$ 0	\$ 183	4620	420	\$ 134	\$ 48
M10-SW-064	15	1	15	5040	5020	B	GRAV	1.8	.65	2.76	\$ 330	\$ 116 \$ 7 \$ 32 \$ 0	\$ 174	4620	420	\$ 108	\$ 65
M10-SW-065	35	1	35	5010	4980	A	HNDMVE	2	.7	2.85	\$ 375	\$ 35 \$ 4 \$ 36 \$ 0	\$ 298	4620	390	\$ 141	\$ 157
M10-SW-065	35	1	35	5010	4980	A	SDROLL	2	.7	2.85	\$ 375	\$ 59 \$ 17 \$ 25 \$ 0	\$ 273	4620	390	\$ 141	\$ 131
M10-SW-065	35	1	35	5010	4980	A	GRAV	2	.65	3.07	\$ 375	\$ 109 \$ 5 \$ 35 \$ 0	\$ 224	4620	390	\$ 112	\$ 111
M10-SW-066	33	1	33	4990	4960	A	HNDMVE	2	.7	2.85	\$ 375	\$ 36 \$ 4 \$ 36 \$ 0	\$ 297	4620	370	\$ 136	\$ 161
M10-SW-066	33	1	33	4990	4960	A	SDROLL	2	.7	2.85	\$ 375	\$ 60 \$ 17 \$ 25 \$ 0	\$ 271	4620	370	\$ 136	\$ 135
M10-SW-066	33	1	33	4990	4960	A	GRAV	2	.65	3.07	\$ 375	\$ 108 \$ 5 \$ 35 \$ 0	\$ 224	4620	370	\$ 106	\$ 118
M10-SW-067	44	.99	43.5	4960	4940	A	HNDMVE	2	.7	2.85	\$ 375	\$ 33 \$ 4 \$ 34 \$ 0	\$ 301	4620	340	\$ 128	\$ 173
M10-SW-067	44	.99	43.5	4960	4940	A	SDROLL	2	.7	2.85	\$ 375	\$ 55 \$ 16 \$ 16 \$ 0	\$ 286	4620	340	\$ 128	\$ 158
M10-SW-067	44	.99	43.5	4960	4940	A	GRAV	2	.65	3.07	\$ 375	\$ 111 \$ 6 \$ 34 \$ 0	\$ 222	4620	340	\$ 97	\$ 124
M10-SW-067	44	.83	36.6	4960	4940	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 133 \$ 54 \$ 8 \$ 30	\$ 147	4620	340	\$ 119	\$ 28
M10-SW-067	44	.98	43.2	4960	4940	A	CPVT/HNV	2	.74	2.69	\$ 375	\$ 125 \$ 47 \$ 13 \$ 30	\$ 157	4620	340	\$ 120	\$ 36

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****				***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****					PRELIM OFF-FARM WATER COST			RESIDUAL PRELIM. PAYMENT CAPACITY			
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****	CAPITAL	MAINT.	LABOR	PUMPING		PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV	STATIC LIFT
M10-SW-068	175	.98	171.5	4940 4880	A	HNDHVE	2	.7	2.85	\$ 375	\$ 35	\$ 4	\$ 34	\$ 0	\$ 300	4620	320	\$ 122	\$ 177
M10-SW-068	175	.98	171.5	4940 4880	A	SDROLL	2	.7	2.85	\$ 375	\$ 58	\$ 16	\$ 16	\$ 0	\$ 284	4620	320	\$ 122	\$ 161
M10-SW-068	175	.98	171.5	4940 4880	A	GRAV	2	.65	3.07	\$ 375	\$ 118	\$ 6	\$ 34	\$ 0	\$ 215	4620	320	\$ 92	\$ 123
M10-SW-068	175	.83	145.7	4940 4880	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 63	\$ 24	\$ 3	\$ 8	\$ 276	4620	320	\$ 114	\$ 161
M10-SW-068	175	.98	172	4940 4880	A	CPVT/HNV	2	.74	2.69	\$ 375	\$ 59	\$ 21	\$ 8	\$ 22	\$ 263	4620	320	\$ 115	\$ 148
M10-SW-069	67	.99	66.3	4890 4860	A	HNDHVE	2	.7	2.85	\$ 375	\$ 34	\$ 4	\$ 34	\$ 0	\$ 301	4620	270	\$ 109	\$ 192
M10-SW-069	67	.99	66.3	4890 4860	A	SDROLL	2	.7	2.85	\$ 375	\$ 55	\$ 16	\$ 16	\$ 0	\$ 286	4620	270	\$ 109	\$ 177
M10-SW-069	67	.99	66.3	4890 4860	A	GRAV	2	.65	3.07	\$ 375	\$ 114	\$ 6	\$ 34	\$ 0	\$ 218	4620	270	\$ 77	\$ 140
M10-SW-069	67	.83	55.8	4890 4860	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 116	\$ 46	\$ 7	\$ 27	\$ 177	4620	270	\$ 102	\$ 75
M10-SW-069	67	.98	65.8	4890 4860	A	CPVT/HNV	2	.74	2.69	\$ 375	\$ 107	\$ 40	\$ 11	\$ 27	\$ 187	4620	270	\$ 103	\$ 83
M10-SW-070	11	1	11	4860 4840	A	HNDHVE	2	.7	2.85	\$ 375	\$ 59	\$ 9	\$ 36	\$ 0	\$ 270	4620	240	\$ 101	\$ 168
M10-SW-070	11	1	11	4860 4840	A	SDROLL	2	.7	2.85	\$ 375	\$ 114	\$ 36	\$ 25	\$ 0	\$ 198	4620	240	\$ 101	\$ 96
M10-SW-070	11	1	11	4860 4840	A	GRAV	2	.65	3.07	\$ 375	\$ 125	\$ 9	\$ 35	\$ 0	\$ 204	4620	240	\$ 69	\$ 135
M10-SW-071	17	1	17	4940 4920	A	HNDHVE	2	.7	2.85	\$ 375	\$ 46	\$ 6	\$ 36	\$ 0	\$ 285	4620	320	\$ 122	\$ 162
M10-SW-071	17	1	17	4940 4920	A	SDROLL	2	.7	2.85	\$ 375	\$ 84	\$ 25	\$ 25	\$ 0	\$ 239	4620	320	\$ 122	\$ 117
M10-SW-071	17	1	17	4940 4920	A	GRAV	2	.65	3.07	\$ 375	\$ 111	\$ 6	\$ 35	\$ 0	\$ 220	4620	320	\$ 92	\$ 128
M10-SW-072	25	1	25	4890 4860	A	HNDHVE	2	.7	2.85	\$ 375	\$ 38	\$ 5	\$ 36	\$ 0	\$ 295	4620	270	\$ 109	\$ 185
M10-SW-072	25	1	25	4890 4860	A	SDROLL	2	.7	2.85	\$ 375	\$ 65	\$ 18	\$ 25	\$ 0	\$ 264	4620	270	\$ 109	\$ 155
M10-SW-072	25	1	25	4890 4860	A	GRAV	2	.65	3.07	\$ 375	\$ 106	\$ 5	\$ 35	\$ 0	\$ 227	4620	270	\$ 77	\$ 149

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I. D.	***** ACREAGE *****			***** WATER REQUIREMENTS PER ACRE *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY PER ACRE *****					PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM. PAYMENT CAPACITY		
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	ELEVATION LOW	CLIMATIC ZONE	IRRIG. SYSTEM TYPE	IRRIG. NET FEET	IRRIG. EFF	APPLIED	PRELIMINARY NET AG. RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM. PAYMENT CAPACITY	WATER SOURCE ELEV.		STATIC LIFT	ANNUAL POWER COST/ACRE
M10-SW-073	14	1	14	4820	4800	A	HNDMVE	2	.7	2.85	\$ 375	\$ 53 \$ 7 \$ 36 \$ 0	\$ 277	4620	200	\$ 90	\$ 187
M10-SW-073	14	1	14	4820	4800	A	SDROLL	2	.7	2.85	\$ 375	\$ 99 \$ 31 \$ 25 \$ 0	\$ 219	4620	200	\$ 90	\$ 128
M10-SW-073	14	1	14	4820	4800	A	GRAV	2	.65	3.07	\$ 375	\$ 118 \$ 7 \$ 35 \$ 0	\$ 212	4620	200	\$ 57	\$ 153
M10-SW-074	7	1	7	4920	4880	A	HNDMVE	2	.7	2.85	\$ 375	\$ 80 \$ 12 \$ 39 \$ 0	\$ 242	4620	300	\$ 117	\$ 125
M10-SW-074	7	1	7	4920	4880	A	SDROLL	2	.7	2.85	\$ 375	\$ 172 \$ 60 \$ 29 \$ 0	\$ 112	4620	300	\$ 117	\$-4
M10-SW-074	7	1	7	4920	4880	A	GRAV	2	.65	3.07	\$ 375	\$ 144 \$ 12 \$ 31 \$ 0	\$ 186	4620	300	\$ 86	\$ 100
M10-SW-075	42	.99	41.5	4920	4880	A	HNDMVE	2	.7	2.85	\$ 375	\$ 33 \$ 4 \$ 34 \$ 0	\$ 301	4620	300	\$ 117	\$ 184
M10-SW-075	42	.99	41.5	4920	4880	A	SDROLL	2	.7	2.85	\$ 375	\$ 55 \$ 16 \$ 16 \$ 0	\$ 286	4620	300	\$ 117	\$ 149
M10-SW-075	42	.99	41.5	4920	4880	A	GRAV	2	.65	3.07	\$ 375	\$ 111 \$ 4 \$ 34 \$ 0	\$ 222	4620	300	\$ 86	\$ 136
M10-SW-076	101	.99	99.9	4840	4780	A	HNDMVE	2	.7	2.85	\$ 375	\$ 35 \$ 4 \$ 34 \$ 0	\$ 300	4620	220	\$ 95	\$ 204
M10-SW-076	101	.99	99.9	4840	4780	A	SDROLL	2	.7	2.85	\$ 375	\$ 53 \$ 16 \$ 16 \$ 0	\$ 288	4620	220	\$ 95	\$ 192
M10-SW-076	101	.99	99.9	4840	4780	A	GRAV	2	.65	3.07	\$ 375	\$ 117 \$ 4 \$ 34 \$ 0	\$ 215	4620	220	\$ 63	\$ 152
M10-SW-076	101	.83	84.1	4840	4780	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 90 \$ 35 \$ 5 \$ 22	\$ 221	4620	220	\$ 89	\$ 131
M10-SW-076	101	.98	99.2	4840	4780	A	CPVT/HNV	2	.74	2.69	\$ 375	\$ 84 \$ 31 \$ 9 \$ 22	\$ 226	4620	220	\$ 90	\$ 136
M10-SW-077	27	1	27	4880	4800	A	HNDMVE	2	.7	2.85	\$ 375	\$ 38 \$ 5 \$ 36 \$ 0	\$ 295	4620	260	\$ 104	\$ 189
M10-SW-077	27	1	27	4880	4800	A	SDROLL	2	.7	2.85	\$ 375	\$ 64 \$ 18 \$ 25 \$ 0	\$ 264	4620	260	\$ 104	\$ 159
M10-SW-077	27	1	27	4880	4800	A	GRAV	2	.65	3.07	\$ 375	\$ 106 \$ 5 \$ 35 \$ 0	\$ 226	4620	260	\$ 74	\$ 151

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COLORADO UTE AGRICULTURAL ENGINEERING STUDY
 PRELIMINARY PIA ANALYSIS
 San Juan West Watershed

PARCEL I.D.	***** ACREAGE *****			***** WATER REQUIREMENTS *****			***** PRELIMINARY ANNUAL PAYMENT CAPACITY *****				PRELIM. OFF-FARM WATER COST			RESIDUAL PRELIM. PAYMENT CAPACITY			
	FIELD SIZE (ACRES)	REDUCTION FACTOR	NET ACREAGE	ELEVATION HIGH	CLIMATIC LOW	ZONE	IRRIG. SYSTEM TYPE	NET FEET	IRRIG. EFF.	APPLIED	PRELIMINARY NET AC. RETURN	***** ON-FARM IRRIG. COSTS *****	PRELIM. PAYMENT CAPACITY		WATER SOURCE ELEV.	STATIC LIFT	ANNUAL POWER COST/ACRE
M10-5W-078	6	1	6	4800	4780	A	HNDMVE	2	.7	2.85	\$ 375	\$ 86 \$ 14 \$ 39 \$ 0	\$ 295	4620	180	\$ 85	\$ 150
M10-5W-078	6	1	6	4800	4780	A	SDROLL	2	.7	2.85	\$ 375	\$ 190 \$ 67 \$ 29 \$ 0	\$ 88	4620	180	\$ 85	\$ 2
M10-5W-078	6	1	6	4800	4780	A	GRAV	2	.65	3.07	\$ 375	\$ 150 \$ 13 \$ 31 \$ 0	\$ 179	4620	180	\$ 51	\$ 128
M10-5W-079	10	1	10	4800	4760	A	HNDMVE	2	.7	2.85	\$ 375	\$ 62 \$ 9 \$ 36 \$ 0	\$ 267	4620	180	\$ 85	\$ 182
M10-5W-079	10	1	10	4800	4760	A	SDROLL	2	.7	2.85	\$ 375	\$ 119 \$ 38 \$ 25 \$ 0	\$ 191	4620	180	\$ 85	\$ 166
M10-5W-079	10	1	10	4800	4760	A	GRAV	2	.65	3.07	\$ 375	\$ 127 \$ 9 \$ 35 \$ 0	\$ 202	4620	180	\$ 51	\$ 150
M10-5W-080	12	1	12	4720	4680	A	HNDMVE	2	.7	2.85	\$ 375	\$ 57 \$ 8 \$ 36 \$ 0	\$ 272	4620	100	\$ 63	\$ 208
M10-5W-080	12	1	12	4720	4680	A	SDROLL	2	.7	2.85	\$ 375	\$ 109 \$ 35 \$ 25 \$ 0	\$ 205	4620	100	\$ 63	\$ 141
M10-5W-080	12	1	12	4720	4680	A	GRAV	2	.65	3.07	\$ 375	\$ 123 \$ 8 \$ 35 \$ 0	\$ 207	4620	100	\$ 28	\$ 178
M10-5W-081	47	.99	46.5	4720	4680	A	HNDMVE	2	.7	2.85	\$ 375	\$ 33 \$ 4 \$ 34 \$ 0	\$ 301	4620	100	\$ 63	\$ 238
M10-5W-081	47	.99	46.5	4720	4680	A	SDROLL	2	.7	2.85	\$ 375	\$ 55 \$ 16 \$ 16 \$ 0	\$ 284	4620	100	\$ 63	\$ 222
M10-5W-081	47	.99	46.5	4720	4680	A	GRAV	2	.65	3.07	\$ 375	\$ 111 \$ 6 \$ 34 \$ 0	\$ 221	4620	100	\$ 28	\$ 193
M10-5W-081	47	.83	39.1	4720	4680	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 131 \$ 53 \$ 8 \$ 30	\$ 151	4620	100	\$ 59	\$ 92
M10-5W-081	47	.98	46.2	4720	4680	A	CPUT/HMV	2	.74	2.69	\$ 375	\$ 123 \$ 46 \$ 13 \$ 30	\$ 160	4620	100	\$ 60	\$ 180
M10-5W-082	58	.99	57.4	4720	4650	A	HNDMVE	2	.7	2.85	\$ 375	\$ 34 \$ 4 \$ 34 \$ 0	\$ 301	4620	100	\$ 63	\$ 237
M10-5W-082	58	.99	57.4	4720	4650	A	SDROLL	2	.7	2.85	\$ 375	\$ 55 \$ 16 \$ 16 \$ 0	\$ 286	4620	100	\$ 63	\$ 222
M10-5W-082	58	.99	57.4	4720	4650	A	GRAV	2	.65	3.07	\$ 375	\$ 119 \$ 6 \$ 34 \$ 0	\$ 220	4620	100	\$ 28	\$ 191
M10-5W-082	58	.83	48.3	4720	4650	A	CNTRPVT	2	.75	2.66	\$ 375	\$ 123 \$ 49 \$ 7 \$ 28	\$ 165	4620	100	\$ 59	\$ 166
M10-5W-082	58	.98	57	4720	4650	A	CPUT/HMV	2	.74	2.69	\$ 375	\$ 114 \$ 43 \$ 12 \$ 28	\$ 175	4620	100	\$ 60	\$ 114

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APPENDIX D.2
OFF-FARM WATER COST

COST SUMMARY
OFF FARM IRRIGATION FACILITIES
MOUNTAIN UTE INDIAN RESERVATION

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File Name ----- 5W075
 Parcel No. -----M10-5W-075
 Net Acres ----- 41.5
 Crop ----- CORN/SOY
 Water Pay Cap - 222
 System Type --- GRAVITY Power rate \$/kwh --- .068605
 Water System -- 5W074,075 Interest rate ----- .08375
 Date ----- 8/26/86 Project Life ----- 50

Facilities	Column A	Column B	Column C	Column D	Column E	Capital Cost \$	D & M Cost \$/yr	Power Cost \$ \$/yr	Total Cost \$
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PIPELINE:

Class f(diam,Lf,\$/ft) -----									
200	8	3080	17.00			52,360	262		
			.00			0	0		
						0	0		
						0	0		
						0	0		

PUMP STATION:

Diversion f(ft,\$/ft) -----									
43	43	210				9,030	45		
River Pump f(gpm,TDH,ac ft/yr) ----	490	328	127.4			40,854	204	3,910	
Booster f(gpm,TDH,ac ft/yr) -----	0	0	0			0	0	0	

ACCESS ROADS: f(LF,\$/LF)									
0	0	.00				0	0		
POWER LINE EXT: f(LF,\$/LF)	0	.00				0	0		
PIPELINE R/W: f(LF,\$/LF)	0	.00				0	0		
PUMP STA R/W: f(acres,\$/ac)	0	0				0	0		

Subtotal -----						102,244	511	3,910	
Engineering, Administration, Legal, Contingencies 25% -----						25,561			
Total -----						127,805	511	3,910	
Annualized Cost (50 yr @ 8.375%) -----						10,899	511	3,910	
Less Incremental Water System Cost, Parcel(s) -----									
Parcel Total Annual Cost -----						10,899	511	3,910	15,321
Annual Cost Per Acre -----						263	12	94	369
Parcel Crop Payment Capacity (Input negative numbers with a -) -----									222
Net Parcel Residual Water Payment Capacity -----									-147

COST SUMMARY
 OFF FARM IRRIGATION FACILITIES
 MOUNTAIN UTE INDIAN RESERVATION

```

=====
File Name ----- 5W076
Parcel No. ----- M10-5W076
Net Acres ----- 99.9
Crop ----- CORN/50Y
Water Pay Cap - 215
System Type --- GRAVITY      Power rate $/kwh --- .068605
Water System -- 5W076        Interest rate ----- .08375
Date ----- 8/26/86        Project Life ----- 50
=====
    
```

```

=====
Facilities          Column  Column  Column  Column  Column  Capital  D & M  Power  Total
                   A         B         C         D         E      Cost $  Cost  Cost $  Cost $
                   A         B         C         D         E      $/yr   $/yr   $/yr   $/yr
=====
    
```

PIPELINE:

```

Class f(diam,Lf,$/ft) -----
    150                10      800    21.00                16,800    84
                        0         0
                        0         0
                        0         0
                        0         0
    
```

PUMP STATION:

```

Diversion f(ft,$/ft) -----      50      210                10,500    53
River Pump f(gpm,TDH,ac ft/gr) --- 1179    235    306.7        61,908    310    6,745
Booster f(gpm,TDH,ac ft/gr) -----      0         0         0         0         0
    
```

```

ACCESS ROADS: f(ILF,$/LF)          0      .00                0         0
POWER LINE EXT: f(LF,$/LF)         0      .00                0         0
PIPELINE R/W: f(ILF,$/LF)          0      .00                0         0
PUMP STA R/W: f(acres,$/ac)         0         0                0         0
    
```

```

=====
Subtotal -----                        89,208    446    6,745
Engineering, Administration, Legal, Contingencies 25% -----      22,302
Total -----                        111,510    446    6,745
Annualized Cost (50 yr @ 8.375%)-----      9,509    446    6,745
Less Incremental Water System Cost, Parcel(s) -----
Parcel Total Annual Cost -----      9,509    446    6,745    16,700
Annual Cost Per Acre -----                95         4         68    167
Parcel Crop Payment Capacity (Input negative numbers with a - ) -----
Net Parcel Residual Water Payment Capacity -----
    
```

```

=====
File Name ----- SW077
Parcel No. ----- M10-SW077
Net Acres ----- 27
Crop ----- CORN/SOY
Water Pay Cap - 226
System Type --- GRAVITY          Power rate $/kwh --- .068605
Water System -- SW077,081       Interest rate ----- .08375
Date ----- 8/26/86           Project Life ----- 50
=====
    
```

```

-----
Facilities          Column  Column  Column  Column  Column  Capital  D & M  Power  Total
                   A         B         C         D         E      Cost $  Cost  Cost $  Cost $
                   $/yr          $/yr
-----
    
```

PIPELINE:

```

Class f(diam,Lf,$/ft) -----
    150          6      2500    12.50          31,250      156
    150          10     220     21.00          4,620       23
                                0         0
                                0         0
                                0         0
    
```

PUMP STATION:

```

Diversion f(ft,$/ft) -----      18      210          3,780       19
River Pump f(gpm,TDH,ac ft/yr) --- 319     290     82.9       31,500      157     2,250
Booster f(gpm,TDH,ac ft/yr) -----      0         0         0           0         0
    
```

ACCESS ROADS: f(LF,\$/LF) 0 .00 0 0

POWER LINE EXT: f(LF,\$/LF) 0 .00 0 0

PIPELINE R/W: f(LF,\$/LF) 0 .00 0 0

PUMP STA R/W: f(acres,\$/ac) 0 0 0 0

```

=====
Subtotal ----- 71,150 356 2,250
Engineering, Administration, Legal, Contingencies 25% ----- 17,787
Total ----- 88,937 356 2,250
Annualized Cost (50 yr @ 8.375%) ----- 7,584 356 2,250
Less Incremental Water System Cost, Parcel(s) -----
Parcel Total Annual Cost ----- 7,584 356 2,250 10,190
Annual Cost Per Acre ----- 281 13 83 377
Parcel Crop Payment Capacity (Input negative numbers with a - ) ----- 226
Net Parcel Residual Water Payment Capacity ----- -151
=====
    
```

1236

```

=====
File Name ----- SW078
Parcel No. ----- M10-SW078
Net Acres ----- 6
Crop ----- CORN/SOY
Water Pay Cap - 179
System Type --- GRAVITY      Power rate $/kwh --- .068605
Water System -- SW078      Interest rate ----- .08375
Date ----- 8/26/86      Project Life ----- 50
=====
    
```

Facilities	Column A	Column B	Column C	Column D	Column E	Capital Cost \$	O & M Cost \$/yr	Power Cost \$ \$/yr	Total Cost \$
------------	-------------	-------------	-------------	-------------	-------------	--------------------	------------------------	---------------------------	------------------

PIPELINE:

Class f(diam,Lf,\$/ft) -----									
150	4	2000	11.00			22,000	110		
						0	0		
						0	0		
						0	0		
						0	0		
						0	0		

PUMP STATION:

Diversion f(ft,\$/ft) -----	0	210				0	0		
River Pump f(gpm,TDH,ac ft/yr) ----	71	196	18.4			14,775	74	337	
Booster f(gpm,TDH,ac ft/yr) -----	0	0	0			0	0	0	

ACCESS ROADS: f(LF,\$/LF)	0	.00				0	0		
POWER LINE EXT: f(LF,\$/LF)	0	.00				0	0		
PIPELINE R/W: f(LF,\$/LF)	0	.00				0	0		
PUMP STA R/W: f(acres,\$/ac)	0	0				0	0		

```

=====
Subtotal ----- 36,775      184      337
Engineering, Administration, Legal, Contingencies 25% ----- 9,194
Total ----- 45,969      184      337
Annualized Cost (50 yr @ 8.375%) ----- 3,920      184      337
Less Incremental Water System Cost, Parcel(s) -----
Parcel Total Annual Cost ----- 3,920      184      337      4,442
Annual Cost Per Acre ----- 653      31      56      740
Parcel Crop Payment Capacity (Input negative numbers with a - ) ----- 179
Net Parcel Residual Water Payment Capacity ----- -561
=====
    
```

1237

```

=====
File Name ----- SW079
Parcel No. ----- M10-SW079
Net Acres ----- 10
Crop ----- CORN/SOY
Water Pay Cap - 202
System Type --- GRAVITY      Power rate $/kwh --- .068605
Water System -- SW079      Interest rate ----- .08375
Date ----- 8/26/86      Project Life ----- 50
    
```

```

=====
Facilities          Column  Column  Column  Column  Column  Capital  O & M  Power  Total
                   A         B         C         D         E  Cost $  Cost  Cost $  Cost $
                   A         B         C         D         E  $/yr   $/yr
    
```

PIPELINE:

```

Class f(diam,Lf,$/ft) -----
    150                4      1000    11.00                11,000    55
                        0          0          0          0          0
                        0          0          0          0          0
                        0          0          0          0          0
    
```

PUMP STATION:

```

Diversion f(ft,$/ft) ----- 0      210          0          0
River Pump f(gpm,TDH,ac ft/yr) --- 118    198    30.7    18,569    93    569
Booster f(gpm,TDH,ac ft/yr) ----- 0      0          0          0          0
    
```

```

ACCESS ROADS: f(LF,$/LF)      0      .00          0          0
POWER LINE EXT: f(LF,$/LF)    0      .00          0          0
PIPELINE R/W: f(LF,$/LF)     0      .00          0          0
PUMP STA R/W: f(acres,$/ac)   0      0          0          0
    
```

```

=====
Subtotal ----- 29,569    148    569
Engineering, Administration, Legal, Contingencies 25% ----- 7,392
Total ----- 36,962    148    569
Annualized Cost (50 yr @ 8.375%) ----- 3,152    148    569
Less Incremental Water System Cost, Parcel(s) -----
Parcel Total Annual Cost ----- 3,152    148    569    3,869
Annual Cost Per Acre ----- 315    15    57    387
Parcel Crop Payment Capacity (Input negative numbers with a - ) ----- 202
Net Parcel Residual Water Payment Capacity ----- -185
    
```

COST SUMMARY
OFF FARM IRRIGATION FACILITIES
MOUNTAIN UTE INDIAN RESERVATION

```

=====
File Name ----- SW080
Parcel No. ----- M10-SW080
Net Acres ----- 12
Crop ----- CORN/50Y
Water Pay Cap - 207
System Type --- GRAVITY      Power rate $/kwh --- .068605
Water System -- SW080        Interest rate ----- .08375
Date ----- 8/26/86        Project Life ----- 50
=====
    
```

```

-----
Facilities          Column   Column   Column   Column   Column   Capital   O & M   Power   Total
                   A         B         C         D         E         Cost $   Cost   Cost $   Cost $
                   A         B         C         D         E         $/yr     $/yr
-----
    
```

PIPELINE:

```

Class f(diam,LF,$/ft) -----
    100                      4         600      10.50                      6,300      32
                                0         0
                                0         0
                                0         0
                                0         0
                                0         0
    
```

PUMP STATION:

```

Diversion f(ft,$/ft) -----          0         210                      0         0
River Pump f(gpm,TDH,ac ft/yr) ---    142        117      36.8                      19,537     98      403
Booster f(gpm,TDH,ac ft/yr) -----          0         0         0                      0         0         0
    
```

```

ACCESS ROADS: f(LF,$/LF)          0         .00                      0         0
POWER LINE EXT: f(LF,$/LF)        0         .00                      0         0
PIPELINE R/W: f(LF,$/LF)          0         .00                      0         0
PUMP STA R/W: f(acres,$/ac)       0         0                      0         0
    
```

```

=====
Subtotal -----                25,837      129      403
Engineering, Administration, Legal, Contingencies 25% -----                6,459
Total -----                32,296      129      403
Annualized Cost (50 yr @ 8.375%) -----                2,754      129      403
Less Incremental Water System Cost, Parcel(s) -----
Parcel Total Annual Cost -----                2,754      129      403      3,286
Annual Cost Per Acre -----                230         11      34      274
Parcel Crop Payment Capacity (Input negative numbers with a - ) -----                -----                -----      207
Net Parcel Residual Water Payment Capacity -----                -----                -----      -67
=====
    
```

1239

```

=====
File Name ----- SW081
Parcel No. ----- M10-SW081
Net Acres ----- 46.5
Crop ----- CORN/SOY
Water Pay Cap - 221
System Type --- GRAVITY      Power rate $/kwh --- .068605
Water System -- SW081,077    Interest rate ----- .08375
Date ----- 8/26/86        Project Life ----- 50
=====
    
```

```

=====
Facilities          Column  Column  Column  Column  Column  Capital  O & M  Power  Total
                   A        B        C        D        E        Cost $  Cost  Cost $  Cost $
                   A        B        C        D        E        $/yr   $/yr
=====
    
```

PIPELINE:

```

Class f(diam,Lf,$/ft) -----
    150                10       380     21.00                7,980     40
                        0         0
                        0         0
                        0         0
                        0         0
    
```

PUMP STATION:

```

Diversion f(ft,$/ft) -----      32       210                6,720     34
River Pump f(gpm,TDH,ac ft/yr) --- 549       112     142.8        36,034    180     1,497
Booster f(gpm,TDH,ac ft/yr) -----      0         0         0           0         0         0
    
```

```

ACCESS ROADS: f(LF,$/LF)          0         .00                0         0
POWER LINE EXT: f(LF,$/LF)        0         .00                0         0
PIPELINE R/W: f(LF,$/LF)          0         .00                0         0
PUMP STA R/W: f(acres,$/ac)       0         0                0         0
    
```

```

=====
Subtotal -----                    50,734     254     1,497
Engineering, Administration, Legal, Contingencies 25% ----- 12,684
Total -----                    63,418     254     1,497
Annualized Cost (50 yr @ 8.375%) ----- 5,408     254     1,497
Less Incremental Water System Cost, Parcel(s) -----
Parcel Total Annual Cost ----- 5,408     254     1,497     7,158
Annual Cost Per Acre ----- 116         5         32     154
Parcel Crop Payment Capacity (Input negative numbers with a - ) ----- 221
Net Parcel Residual Water Payment Capacity ----- 67
=====
    
```