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**DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC AND BEHAVIORAL HEALTH**

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May 21, 2019

MEMORANDUM

To: Beatty File

From: John Follette, Radiation Control Specialist *JF*

Subject: Beatty Inspection Summary May 20, 2019

An inspection of the Beatty Low-Level Radioactive Waste landfill (closed) was conducted on May 20, 2019 by John Follette. The radiological survey was performed by driving the BNC Model SAMpack-120 (BSN 120064) backpack around the site boundary access road and in a grid pattern across the cap to detect radiological anomalies. None were detected. Dose rate readings on the cap remain about twice background*, as read on the access road.

Status of Previous Inspection Items:

The markers for the trenches are not in place on the cap. They are still stacked off to the side of the cap, inside of the fenced area.

Radiological Postings Adequate:

All of the postings along the fence are adequate. However, we may want to add additional radiological postings to the new gate.

Erosion, Fissures, Water Pooling, or Subsidence Concerns:

Patches of white crust have formed on the surface around trench 14 along the east fence of the site. The area affected is about 60 feet long and the width varies between 2 to 10 feet wide. The white crust is the same type that was previously identified during inspections on February 17, 2016 and April 18, 2016. The crust was previously assumed to be hydroxides that are seeping up from the surface. USEN previously cleaned up these areas, however, the hydroxides continue to seep to the surface. The area has been repaired by USEN. See attached pictures.

Site Observations:

Radiological Postings Adequate:

All of the postings along the fence are adequate. However, we may want to add additional radiological postings to the new gate.

Site Boundary Fence Undamaged and Gate(s) Locked: Yes

Site Boundary, Access Road, and Buffer Areas Maintained: Yes

Rain Since Last Inspection:

February – 1.38”, March – 1.53”, April - 0.04”, and May – 0.19” as of May 20, 2019.

Erosion, Fissures, Water Pooling, or Subsidence Concerns:

Patches of white crust on the surface around trench 14 identified during the inspection on February 26, 2019 have been repaired by USEN. See attached pictures.

Radiation Survey Results:

Instrument: BNC Model SAMpack-120 (BSN 120064) Calibration date: Daily by self-calibration

Background Location: Between US 95 and the site, at the south-east side of the site entrance gate.

Background measurement: 15-23 urem/hr

Value used for twice background: 46 urem/hr

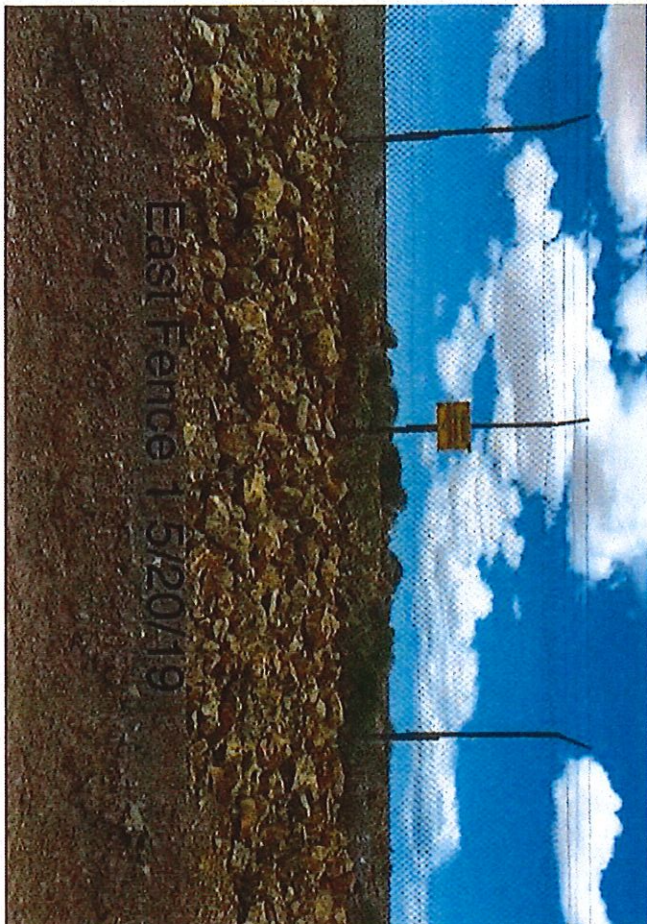
Site Boundary Highest Measurement: Within twice background*

Cap Highest Measurement: Within twice background*

*If sustained radiation measurements are above twice background, record the measurement and identify the location. Otherwise, indicate all measurements were within twice background.

For any reading above 0.5 mrem/hr contact a supervisor or the State of Nevada Radiation Control Program Manager. (Site Stabilization and Closure Plan Closure Plan for Low-Level Radioactive Waste Management Facility US Ecology, Inc. Beatty, Nevada, submittal date December 1988.)

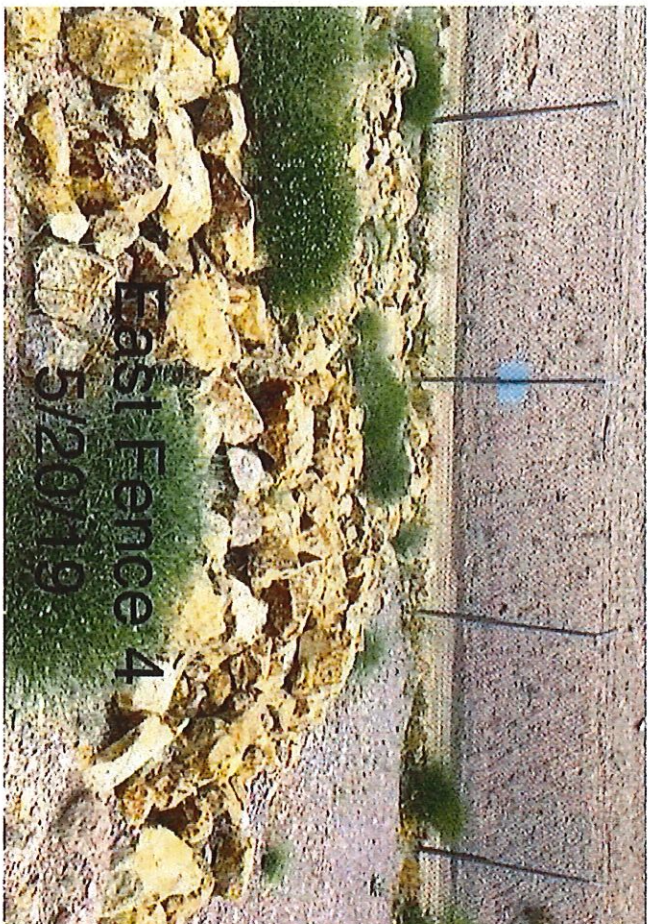
Contacts:	Karen Beckley:	775-687-7540, kbeckley@health.nv.gov
	Adrian Howe:	775-687-7531, ahowe@health.nv.gov
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	John Follette:	702-486-3017, jfollette@health.nv.gov
	Haley Brown:	702-486-3015, habrown@health.nv.gov



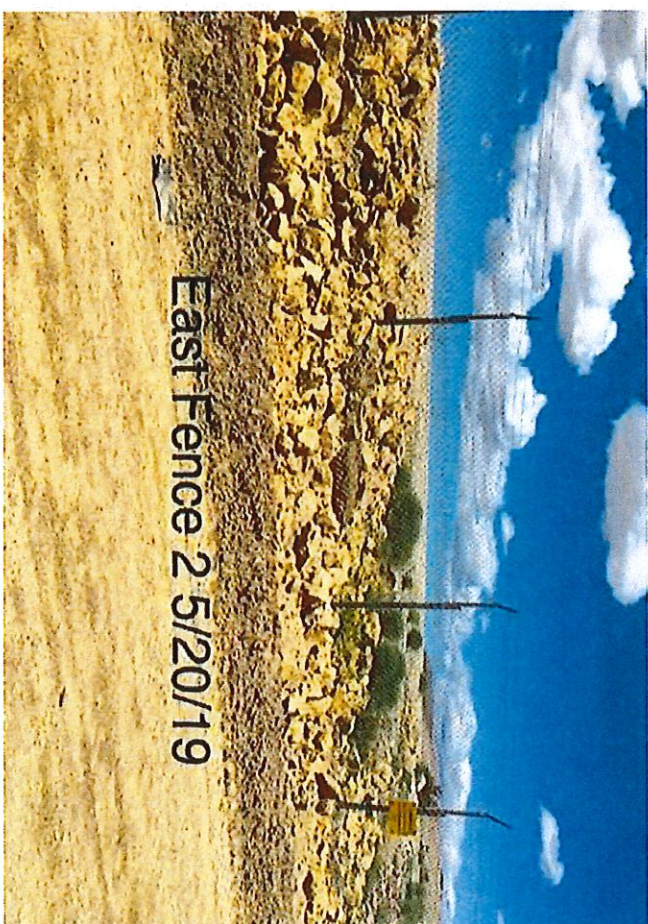
East Fence 1 5/20/19



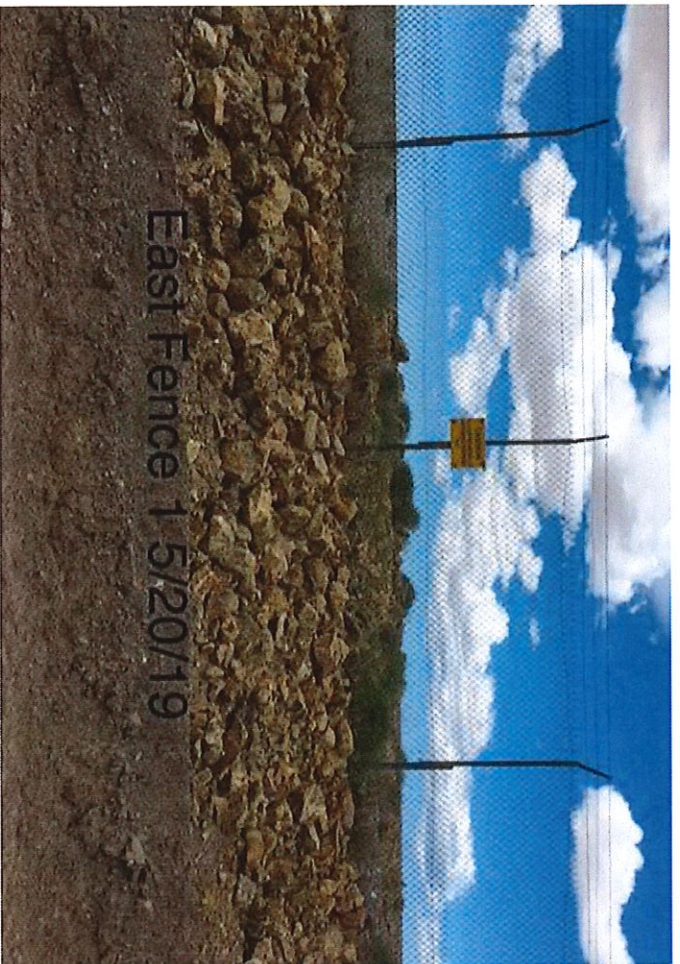
East Fence 3
5/20/19



East Fence 4
5/20/19



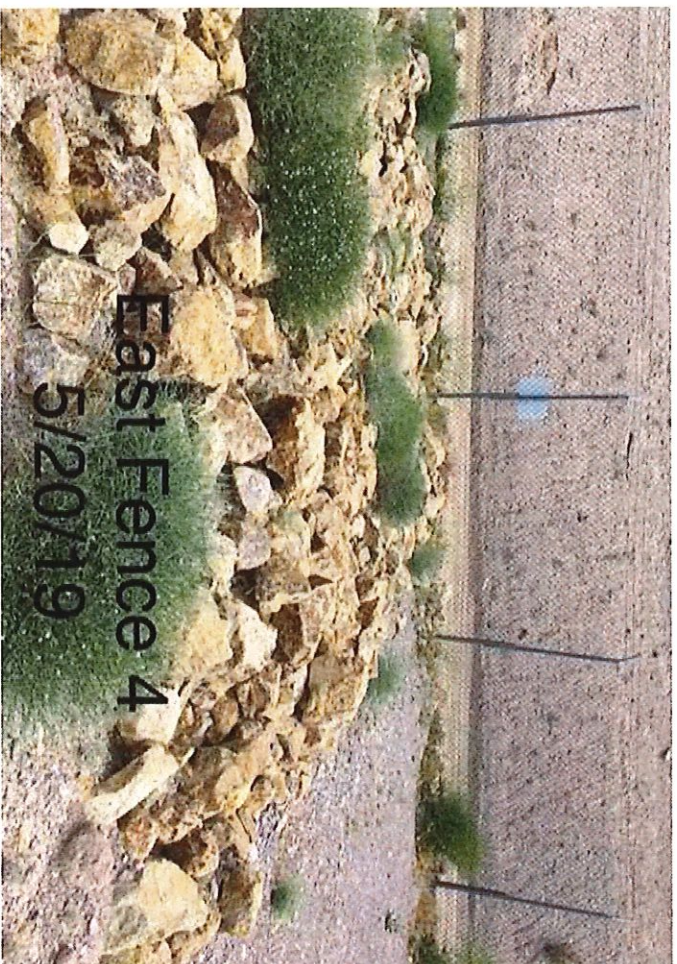
East Fence 2 5/20/19



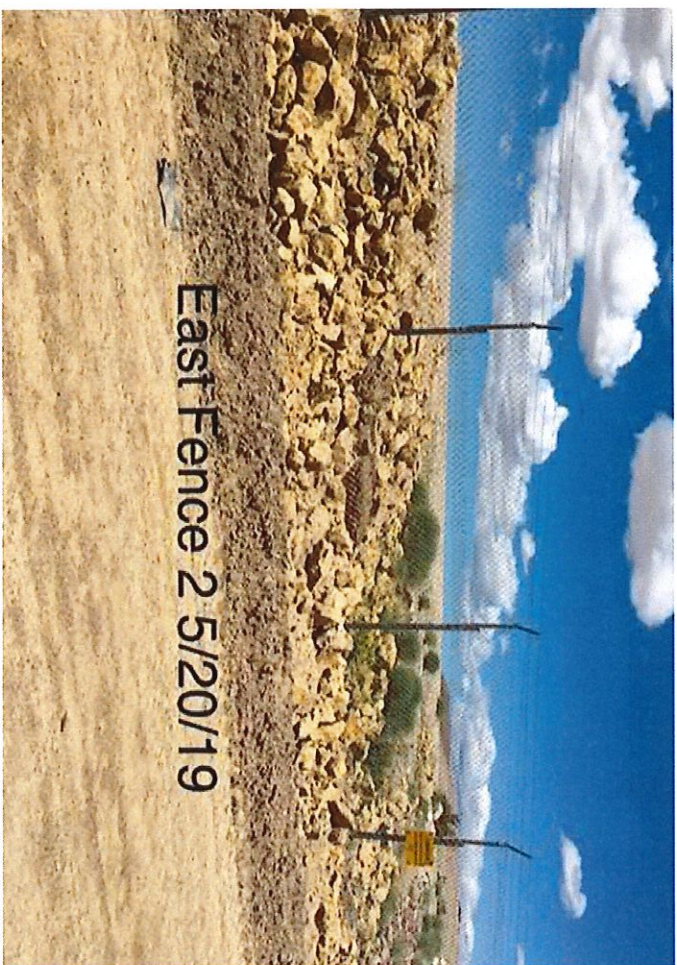
East Fence 1 5/20/19



East Fence 3
5/20/19



East Fence 4
5/20/19



East Fence 2 5/20/19

Station Summary

Beatty 11SSE US Ecology Nevada Monthly Summary for February, 2019

Day of Month	Day of Year	Total Solar Rad. ly.	Wind		Air Temperature			Humidity			Dew	Wet	Total	
			Ave. mph	V. Dir. Deg	Max. mph	Mean Deg.	Max Fahrenheit	Min Fahrenheit	Mean	Max	Min	Point Deg. Fahrenheit	Bulb	Precip. inches
<u>1</u>	32	299	7.8	195	21.0	52	64	36	40	58	24	27	40	0.00
<u>2</u>	33	45	15.7	139	31.1	49	54	44	80	96	50	43	46	0.67
<u>3</u>	34	165	15.6	130	29.8	46	52	39	68	79	60	36	41	0.00
<u>4</u>	35	167	16.5	155	29.9	47	56	43	61	81	34	34	40	0.00
<u>5</u>	36	250	13.4	224	47.2	42	50	34	44	68	19	20	33	0.00
<u>6</u>	37	328	15.5	328	35.5	36	43	29	37	55	24	12	28	0.00
<u>7</u>	38	376	5.4	230	20.3	37	48	26	37	69	19	13	29	0.00
<u>8</u>	39	378	4.7	279	16.9	37	51	25	47	72	22	17	29	0.00
<u>9</u>	40	373	6.2	168	19.9	43	54	31	41	60	26	20	33	0.00
<u>10</u>	41	264	16.9	120	46.4	40	56	30	52	90	27	23	33	0.00
<u>11</u>	42	394	4.7	289	14.4	36	52	23	41	68	16	13	28	0.00
<u>12</u>	43	380	7.5	195	24.8	40	52	26	36	66	10	12	30	0.00
<u>13</u>	44	193	8.8	140	27.5	47	56	36	28	47	17	15	34	0.00
<u>14</u>	45	75	15.0	125	30.9	48	52	42	69	97	31	37	42	0.66
<u>15</u>	46	400	14.2	159	28.3	47	57	40	57	75	36	32	39	0.00
<u>16</u>	47	412	5.7	244	20.7	43	53	33	50	79	27	25	35	0.00
<u>17</u>	48	173	5.0	25	17.8	35	42	30	73	95	48	27	32	0.05
<u>18</u>	49	328	22.1	333	39.6	37	44	32	37	64	23	13	29	0.00
<u>19</u>	50	429	13.9	342	37.2	37	46	29	35	72	20	11	28	0.00
<u>20</u>	51	355	5.2	198	17.8	36	46	25	52	75	34	20	30	0.00
<u>21</u>	52	357	14.3	323	32.7	38	45	33	47	78	23	19	31	0.00
<u>22</u>	53	448	17.6	328	34.3	38	47	31	28	46	12	7	28	0.00
<u>23</u>	54	385	4.1	262	14.6	39	52	26	34	55	14	11	29	0.00
<u>24</u>	55	438	3.9	256	12.6	43	58	27	35	67	15	15	32	0.00
<u>25</u>	56	423	8.3	139	21.1	48	59	33	34	61	21	19	36	0.00
<u>26</u>	57	404	12.2	147	35.4	55	68	36	31	61	15	24	41	0.00
<u>27</u>	58	445	14.0	130	27.2	57	68	49	34	59	19	28	43	0.00
<u>28</u>	59	441	12.5	128	23.7	58	68	45	51	82	32	39	47	0.00

February 2019

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind Ave. V. mph	Dir. Max. Deg	Air Temperature Mean Max Min Deg. Fahrenheit	Humidity Mean Max Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip. inches
Total	9123							1.38
Ave.	326	11.0	167	27.1 43.3 53.3 33.3	46 71 26	22	35	
Max.	448	22.1		47.2 58 68 49	80 97 60	43	47	0.67
Min.	45	3.9		12.6 35 42 23	28 46 10	7	28	0.00

Data are subject to further review and editing. Please refer any questions to the Western Regional Climate Center.

$$^{\circ} 1 \text{ ly} = 1 \text{ cal/cm}^2 = 4.1855 \text{ J/cm}^2 = 3.6855 \text{ BTU/ft}^2 = .01163 \text{ KW-hr/m}^2$$

Station Summary

Beatty 11SSE US Ecology Nevada Monthly Summary for March, 2019

Day of Month	Day of Year	Total Solar Rad. ly.	Wind		Air Temperature			Humidity			Dew Point Deg. Fahrenheit	Wet Bulb Deg. Fahrenheit	Total Precip inches	
			Ave mph	V. Dir. Deg	Max mph	Mean	Max	Min	Mea n	Ma x				Mi n
1	60	331	8.5	124	21.3	55	64	41	45	76	29	34	44	0.00
2	61	286	8.1	127	22.0	56	64	48	62	88	46	42	48	0.04
3	62	355	7.9	128	21.6	54	65	42	61	90	38	40	46	0.00
4	63	464	5.1	250	15.4	54	66	40	55	85	31	37	45	0.00
5	64	212	10.2	194	33.4	56	67	47	50	89	22	36	45	0.13
6	65	134	13.3	131	26.9	51	55	48	81	95	66	45	47	0.99
7	66	420	9.1	135	21.9	52	61	41	55	84	31	35	43	0.00
8	67	427	8.6	138	19.9	47	57	40	53	72	26	30	39	0.00
9	68	424	7.7	136	18.2	45	55	34	45	75	31	24	36	0.00
10	69	271	6.8	151	18.5	46	55	39	55	80	33	30	39	0.00
11	70	344	11.4	355	33.5	50	59	37	48	83	24	29	40	0.00
12	71	488	15.8	310	70.1	55	66	47	37	65	24	29	43	0.00
13	72	528	27.2	335	49.3	45	51	39	26	40	12	11	33	0.00
14	73	531	12.7	331	37.3	45	58	33	27	46	14	12	33	0.00
15	74	514	4.5	286	15.9	51	67	35	27	51	9	16	37	0.00
16	75	537	7.2	25	20.8	57	72	41	22	44	9	17	40	0.00
17	76	533	4.4	279	15.6	59	75	41	28	53	13	24	42	0.00
18	77	495	4.3	245	16.8	60	76	42	31	59	14	27	44	0.00
19	78	413	8.0	179	25.1	61	74	45	30	51	16	27	44	0.00
20	79	205	10.1	120	31.4	54	64	46	56	91	29	38	46	0.21
21	80	188	7.5	144	15.0	45	50	39	86	94	68	41	43	0.16
22	81	534	4.7	261	17.9	51	64	36	64	96	31	38	44	0.00
23	82	533	7.1	162	26.4	57	70	47	48	85	24	35	46	0.00
24	83	547	10.4	289	26.0	55	70	44	36	64	14	26	41	0.00
25	84	560	8.7	162	23.8	58	72	40	32	62	11	24	42	0.00
26	85	522	10.7	162	30.0	63	76	46	19	48	7	17	43	0.00
27	86	518	14.5	159	31.9	64	75	55	21	39	11	22	45	0.00
28	87	562	10.3	163	29.0	60	71	52	31	50	12	27	45	0.00
29	88	586	13.3	323	27.9	56	66	48	19	30	10	14	39	0.00
30	89	577	4.4	251	17.2	57	71	43	22	38	12	17	40	0.00
31	90	579	4.6	254	23.6	58	73	45	25	46	11	21	41	0.00

March 2019

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind		Air Temperature			Humidity			Dew	Wet	Total	
		Ave .	V. Dir.	Max .	Mean	Max	Min	Mea n	Ma x	Mi n	Point	Bulb	Precip .
		mph	Deg	mph	Deg. Fahrenheit			Percent			Deg. Fahrenheit		inches
Total	13619											1.53	
Ave.	439	9.3	164	25.9	54.1	65.5	42.5	42	67	23	28	42	
Max.	586	27.2		70.1	64	76	55	86	96	68	45	48	0.99
Min.	134	4.3		15.0	45	50	33	19	30	7	11	33	0.00

Data are subject to further review and editing. Please refer any questions to the Western Regional Climate Center.

$$^{\circ} 1 \text{ ly} = 1 \text{ cal/cm}^2 = 4.1855 \text{ J/cm}^2 = 3.6855 \text{ BTU/ft}^2 = .01163 \text{ KW-hr/m}^2$$

Station Summary

Beatty 11SSE US Ecology Nevada Monthly Summary for April, 2019

Day of Month	Day of Year	Total Solar Rad. ly.	Wind		Air Temperature			Humidity			Dew	Wet	Total	
			Ave. mph	V. Dir. Deg	Max. mph	Mean Deg.	Max Fahrenheit	Min Fahrenheit	Mean	Max	Min	Point	Bulb	Precip.
<u>1</u>	91	472	6.0	162	16.6	62	75	46	24	46	12	21	43	0.00
<u>2</u>	92	469	13.6	177	35.4	65	76	54	27	51	15	28	47	0.00
<u>3</u>	93	548	6.1	203	21.2	61	73	46	36	66	18	32	46	0.00
<u>4</u>	94	463	10.1	172	35.9	61	70	48	35	60	20	32	46	0.00
<u>5</u>	95	499	10.6	140	32.9	60	70	53	40	61	29	35	47	0.00
<u>6</u>	96	586	5.3	247	19.2	60	74	44	42	78	18	34	46	0.00
<u>7</u>	97	600	5.3	251	18.0	66	83	47	29	52	13	31	48	0.00
<u>8</u>	98	516	6.6	162	19.0	71	85	55	26	48	13	32	50	0.00
<u>9</u>	99	499	24.4	2	65.3	65	79	50	25	42	12	27	46	0.00
<u>10</u>	100	624	35.1	335	57.3	56	65	47	22	38	8	15	39	0.00
<u>11</u>	101	378	11.0	332	46.7	56	68	46	33	74	18	25	42	0.00
<u>12</u>	102	625	20.5	339	41.5	57	67	47	27	46	15	22	41	0.00
<u>13</u>	103	627	7.1	268	21.6	61	76	44	24	43	12	23	43	0.00
<u>14</u>	104	620	7.7	182	20.6	64	80	46	27	43	15	28	46	0.00
<u>15</u>	105	540	13.5	129	35.6	67	79	59	28	35	20	32	48	0.00
<u>16</u>	106	282	9.0	96	27.4	58	67	51	45	74	28	36	47	0.04
<u>17</u>	107	644	11.4	329	37.6	65	84	49	24	45	11	25	45	0.00
<u>18</u>	108	642	5.1	285	22.6	70	88	54	25	42	12	30	49	0.00
<u>19</u>	109	592	5.2	232	23.4	72	89	53	21	41	8	26	49	0.00
<u>20</u>	110	522	10.4	295	49.9	70	85	55	26	51	13	32	50	0.00
<u>21</u>	111	601	18.1	333	33.8	64	74	55	30	52	12	30	47	0.00
<u>22</u>	112	522	18.6	352	35.8	66	75	55	31	44	21	34	49	0.00
<u>23</u>	113	663	12.9	330	34.8	72	87	60	20	37	6	26	49	0.00
<u>24</u>	114	654	4.3	253	16.1	76	92	59	21	33	13	33	52	0.00
<u>25</u>	115	642	5.5	221	23.8	78	94	59	20	39	9	32	53	0.00
<u>26</u>	116	665	7.4	266	23.4	78	93	59	20	37	7	31	53	0.00
<u>27</u>	117	609	6.5	212	27.5	79	91	64	16	27	10	29	52	0.00
<u>28</u>	118	674	7.6	183	28.2	77	91	55	17	33	7	26	51	0.00
<u>29</u>	119	246	11.1	132	34.9	64	76	56	44	79	18	39	51	0.00
<u>30</u>	120	439	14.6	123	39.6	62	80	50	48	86	19	39	50	0.00

April 2019

MONTHLY STATISTICS

	Total Solar Rad. ly.	Ave. V. mph	Wind Dir. Deg	Max. mph	Air Temperature Mean Deg.	Max Fahrenheit	Min Fahrenheit	Humidity Mean Percent	Max Percent	Min Percent	Dew Point Deg. Fahrenheit	Wet Bulb Fahrenheit	Total Precip. inches
Total	16465												0.04
Ave.	549	11.0	292	31.5	66.1	79.5	52.3	28	50	14	29	47	
Max.	674	35.1		65.3	79	94	64	48	86	29	39	53	0.04
Min.	246	4.3		16.1	56	65	44	16	27	6	15	39	0.00

Data are subject to further review and editing. Please refer any questions to the Western Regional Climate Center.

° 1 ly = 1 cal/cm² = 4.1855 J/cm² = 3.6855 BTU/ft² = .01163 KW-hr/m²

May 20, 2019

MONTHLY STATISTICS

	Total Solar Rad. ly.	Wind		Air Temperature			Humidity			Dew	Wet	Total	
		Ave .	V. Dir.	Max .	Mean	Max	Min	Mea n	Ma x	Mi n	Point	Bulb	Precip .
		mph	Deg mph		Deg. Fahrenheit				Percent		Deg. Fahrenheit	inches	
Total	11800											0.19	
Ave.	621	9.5	208	29.7	68.4	80.3	52.8	27	49	14	29	48	
Max.	711	17.8		51.6	78	91	66	62	89	41	46	53	0.10
Min.	361	4.1		12.3	59	53	42	16	27	5	17	42	0.00

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$^{\circ} 1 \text{ ly} = 1 \text{ cal/cm}^2 = 4.1855 \text{ J/cm}^2 = 3.6855 \text{ BTU/ft}^2 = .01163 \text{ KW-hr/m}^2$