SKULL CREEK RESIDENTS IN OPPOSITION TO STRIP MINE
1665 E. 4500 S.
VERNAL, UT 84078

March 30, 2020

TO THE FOLLOWING ADDRESSEES:

COLORADO DIVISION OF RECLAMATION MINING AND SAFETY
1313 Sherman Street
Room 215
Denver, CO 80203

Attn: Stephanie Mitchell

COLORADO DIVISION OF RECLAMATION MINING AND SAFETY
1313 Sherman Street
Room 215
Denver, CO 80203

Attn: Travis Marshall, Sr. Environmental Protection Specialist

COLORADO DIVISION OF RECLAMATION MINING AND SAFETY
101 S. 3rd Street
Suite 301
Grand Junction, CO 81501
Attn: Stephanie Mitchell

COLORADO PARKS AND WILDLIFE
73485 Hwy. 64
P.O. Box 1181
Meeker, CO 81641

Attn: Bill DeVergie, Area Wildlife Mgr.

COLORADO PARKS AND WILDLIFE
73485 Hwy. 64
P.O. Box 1181
Meeker, CO 81641
Attn: Garrett Smith
District Wildlife Manager

CONSERVATION COLORADO
Grand Junction Office
546 Main Street, Suite 404
Grand Junction, CO 91501

Attn: Ian Roche

COLORADO DIVISION OF WATER RESOURCES
1313 Sherman Way
Suite 821
Denver, CO 80203

MOFFAT COUNTY ROAD AND BRIDGES
822 EAST 1ST STREET
CRAIG, CO 81625

ATTN: DAN MILLER

COLORADO DIVISION OF WATER RESOURCES
DIVISION 6
505 Anglers Drive, Suite 101
P.O. Box 773450
Steamboat Springs, CO 80477

Attn: Erin Light, Division Engineer
Brian Romig, Water Admin., Dist. 44
James A. Martin, Engineering Tech., Well Permits

MOFFAT COUNTY DEPARTMENT OF NATURAL RESOURCES
221 W. VICTORY WAY, SUITE 130
CRAIG, COLORADO 81625

ATTN: JEFF COMSTOCK

MOFFAT COUNTY COMMISSIONERS
DISTRICT 3
221 W. VICTORY WAY, SUITE 130
CRAIG, COLORADO 81625

ATTN: D. BROOM

COLORADO DEPARTMENT OF PUBLIC HEALTH AND SAFETY
101 W. COLFAX AVE.
SUITE 800
DENVER, COLORADO 80202

ATTN: SHIYA WANG, URANIUM LICENSING AND INSPECTION

MOFFAT COUNTY PUPBIC HEALTH AGENCY
221 W. VICTORY WAY, SUITE 130
CRAIG, COLORADO 81625

BRIAN KILLIAN
Access Manager
COLORADO DEPARTMENT OF TRANSPORTATION
222 South 6th Street
Grand Junction, CO 81501

To the addressees above, collectively and individually:

THE RESIDENTS OF SKULL CREEK SUBDIVISIONS 1 THROUGH 6, SKULL CREEK HEIGHTS AND SKULL CREEK FLATS, AND OTHER INTERESTED ENTITIES, (HEREINAFTER, "SKULL CREEK RESIDENTS") HEREBY FORMALLY SUBMIT OBJECTION TO THE ISSUANCE OF A MINING PERMIT TO UINTA MINING, LLC OR ANY OTHER MINING ENTITY FOR THE OPERATION OF A STRIP MINE ON THE SUBJECT PROPERTY, (HEREINAFTER, "THE STRIP MINE") AS FOLLOWS:

1. a. **AS TO THE IMPACT OR POTENTIAL IMPACT TO RESIDENT'S GROUNDWATER, WATER WELLS, AND WATER TABLE:**

Skull Creek Residents refer the readers to the signature pages, attached. Those residents with water wells that are specifically objecting to the operation of the Strip Mine are highlighted and the well permit number is included with their signature.

Skull Creek Residents note that the Strip Mine proposes to operate in the center of the Skull Creek Residents area. Many of the Skull Creek Residents rely upon water wells as their sole and only source of water to their residence. In fact, the aquifer that provides water to the Skull Creek Residents qualifies as a "Sole Source Aquifer" for drinking water, as defined by the U.S. Environmental Protection Agency (Hereinafter, "EPA"), i.e., :

- The aquifer supplies at least 50 percent of the drinking water for its service area
- There are no reasonably available alternative drinking water sources should the aquifer become contaminated.

The EPA's authority to designate a "Sole Source Aquifer" is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 eq. seq), which states:

> "If the Administrator determines, on his own initiative or UPON PETITION, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register.

b. THE SKULL CREEK RESIDENTS SPECIFICALLY OBJECT TO THE USE OF ANY RESIDENTIAL WELL IN SKULL CREEK FOR EXCESSIVE COMMERCIAL USE, AND ASSERT THAT THE COLORADO DIVISION OF WATER RESOURCES WAS HASTY IN ISSUING THE PERMIT, AND FAILED TO INVESTIGATE THE QUANTITY OF WATER NEEDED FOR DUST CONTROL FOR THE STRIP MINE'S OPERATION VS. THE ALLOTED OUTPUT OF THE WELL, PRIOR TO THE GRANTING OF THE PERMIT.

It has come to the attention of the Skull Creek Residents that the **Colorado Division of Water Resources has granted a conditional use permit** to the Strip Mine to use water from a residential well

located on Lot 50 of Skull Creek Estates for the commercial purposes of dust control and suppression on the pads and the County Road 104, approximately 3 miles which they are proposing for ingress and egress. The application of such massive amounts of groundwater will require the Strip Mine to pump water continuously to fill the tankers used for dust control, and most certainly will exceed the 15 g.p.m. and/or 1 acre foot per year restriction placed on residential wells in the area. Use of the water from this residential well will prove to be excessive extraction of the groundwater, i.e., the sole source of water for all residents of Skull Creek, and will adversely affect the groundwater table, especially in times of drought.

Referring to Well Permit 83819-F, issued 11-18-2019, "CONDITIONS OF APPROVAL", Condition 1) States "This well shall be used in such a way as to cause no material injury to existing water rights..." The Skull Creek Residents contend that use of this permit under the stated conditions of approval shall cause material injury to the Skull Creek Residents by depleting the existing water table, which is already threatened by drought conditions, and further poses a threat by way of introduction of contaminates to the ground water, which is the sole source aquifer to the residents of Skull Creek, and further poses a threat to contamination of the ground water by way of, but not limited to, exposure of uranium tailings to both ground water and surface water by disturbance of the soils in the area. **(See Paragraph 2, below, for further information on the existence of uranium in the excavation area.) Also see "Hydrology Report", JFM Consulting, attached hereto.**

c. SKULL CREEK RESIDENTS ASSERT SENIORITY OVER THE WELL PERMIT 83819-F, ISSUED ON 11-18-2019.

Permit 83819-F, Conditions of Approval 4) states "The issuance of this permit hereby cancels permit no. 126165. Therefore, the new permit 83819-F may not be grandfathered in as to seniority.

d. SKULL CREEK RESIDENTS SPECIFICALLY OBJECT TO THE USE OF WELL PERMIT 83819-F FOR THE USE OF DUST CONTROL FOR THE SUBJECT STRIP MINE AS IT IS INADEQUATE FOR THE PURPOSE FOR WHICH IT WAS PERMITTED.

Permit 83819-F, Conditions of Approval 5), 6) and 7) state:

5) The maximum pumping rate of the well shall not exceed 15 GPM.

6) The annual amount of ground water to be withdrawn shall not exceed 1 acre foot.

7) The use of ground water from this well is limited to industrial use (dust suppression).

The dust suppression mandatory for the strip mine includes not only the mine site itself, but also by way of mandate by Moffat County Road and Bridges, approximately 3 miles of Moffat County Road 104, currently a dirt/gravel road traveled only by residents of Skull Creek.

Skull Creek is high desert. The general soils condition is clay and silt fines, with occasional pockets of more sandy or slightly loamy materials and gravel. The soil conditions are difficult to effect dust control with application of water, even in later winter and spring conditions, and near impossible in

later spring through early winter. In addition, the area is subject to high winds throughout the year, as high as a constant 30 mph with gusts exceeding 40 mph which greatly exacerbates the evapotranspiration rate of the soils in the area.

As an example for comparison, referring to a January 2010 study presented with reference to the Ridgecrest Solar Energy Project in Indian Wells Valley, California, it was determined that the contractor's proposed dust control was grossly inadequate for the conditions encountered at the project site. It is important to note that the geological situation and soil conditions at the Ridgecrest Solar Energy site are very similar to the geological layout and soil conditions of the Strip Mine's proposed Skull Creek site.

At the Ridgecrest site, the contractor had proposed an application of 2050 gal/acre/day. It was estimated that the application would continue daily for a period of 9 months throughout the year, or approximately 270 days. The contractor did not take into consideration the evapotranspiration rate of soil in that area, which in summer and high wind could exceed .3 inches/day, an amount that calculated out to be three times the proposed application rate.

Taking that into consideration, and using the calculations provided with the Ridgecrest project, we can assume the following:

The Proposed Strip Mine area to be treated for dust control:

The Strip Mine has indicated that they will be excavating on approximately 140 acres of land at the proposed site. Let's assume conservatively, that they will require dust control on 20% of that excavation land at any given time. That factors out to approximately 28 acres of land requiring daily dust control.

The Moffat County Department of Roads and Bridges will require, among other things, that the ingress/egress from the subject site to State Highway 40, be maintained for dust control.
3 miles of County Road 104 = 15,840 linear feet, x 20 ft. wide = 316,800 square feet.

We know there are 43,560 square feet in an acre. Multiplied by 28 acres = 1,219,680 square feet.

Excavated acreage of 28 acres:	1,219,680
Dust control County Road 104	216,800
Total square feet	**1,436,480**

Dividing 1,436,480 square feet by 43,560 = 32.97 acres needing daily dust control. There are 325,851 gallons of water in 1 acre foot.

If we apply the calculations from the Ridgecrest site of 2050 gal/acre/day, *which has already been proven to be inadequate,* to the estimated acreage of the proposed Strip Mine needing daily dust control, we get a quantity of **67,588.5 gallons needed per day.**

Applying that daily quantity to the Strip Mine's allotted 1 acre foot/year, we find that the Strip Mine will use their annual allotted water in approximately 5 days. *And again, that quantity of water has already been proven to be grossly inadequate in a similar project under similar conditions.*
See: Hydrology Report, JFM Consulting, attached hereto.

The Skull Creek Residents assert that the allocation of the well under permit 83891-F for the purpose of dust control was ill-conceived, inadequate for the purpose intended, and an unnecessary burden on the Skull Creek Resident's water table, and should be revoked.

Q: WHERE WILL THE STRIP MINE SOURCE THEIR WATER FOR DUST CONTROL THE REMAINING ESTIMATED 265 DAYS THAT DUST CONTROL IS REQUIRED IN SKULL CREEK?

e. SKULL CREEK RESIDENTS ASSERT THE SUBJECT WELL CAPACITY IS INADEQUATE TO FULFILL THE DUST CONTROL NEEDS OF THE PROPOSED STRIP MINE, AND SKULL CREEK RESIDENTS OBJECT TO ANY CHANGE IN THE WELL'S MAXIMUM OUTPUT. BASED ON THE FOREGOING, THE STRIP MINE IS NOT IN COMPLIANCE WITH THE "CONDITIONS OF APPROVAL" AND THE REQUIREMENTS SET FORTH IN THE 2-13-20 Memo from Justina P. Mickelson, Physical Science Researcher with CDWR to Mining and Reclamation outlining the requirement for adequate water for dust suppression.

Assuming that the Strip Mine is allowed to go forward with the project and is required to provide dust control to the subject road and excavation area(s), it is important to note that, employing the average 4000 gallon capacity water tanker used for dust control, the Strip Mine will have to run approximately 17 tankers on the road and excavation area daily to complete 1 pass over the dust control area.

Running the well at the **maximum allowable rate of 15 gpm**, each tanker will require approximately 4.5 hours to fill.

Applying the Strip Mine's proposed hours of operation (Contrary to the dictates of the Department of Wildlife) of 12 hours daily, from 7 am to 7 pm, 7 days a week, **the Strip Mine will only be able to fill approximately three (3) of the seventeen (17) 4000 gallon tankers necessary to fulfill their obligation to provide dust control on a daily basis.** Again, where will they obtain the remainder of the water necessary to fulfill the obligation for dust control?

2. AS TO THE IMPACTOR POTENTIAL IMPACT ON THE HEALTH AND SAFETY OF THE SKULL CREEK RESIDENTS BEING EXPOSED TO POTENTIALLY HAZARDOUS AIR QUALITY, EXCESSIVE DUST, POLLUTION, NOISE AND EXCESSIVE TRUCK EMISSIONS:

URANIUM:
In addition to the lack of adequate dust control available by way of the well permit 83819-F, Skull Creek Residents assert that the Strip Mine, by way of excavating massive amounts of material from the subject area, may potentially expose residents and others to hazardous and toxic materials, i.e., dust

from uranium tailings that exist in the area by way of the old uranium mine that once operated adjacent to on the western border of the subject property.

In fact, the road that is proposed for ingress/egress by the Strip Mine, "Old Mine Road" is named due to the existence of one of the uranium mines that once operated there.

Please see: **Exhibit 1 (a)-(b)**, Map, provided by Uranium Producers of America, showing the location of uranium mining operations in Skull Creek.) and an excerpt from "*Uranium Deposits in the Skull Creek and Uranium Peak Districts, Northwest Colorado*", (1955) authored by Y. William Isachsen, U.S. Atomic Energy Commission, Grand Junction Colorado.

Also attached is a USGS map showing the location of a number of uranium mines in the general area provided by USGS "The Diggings", and a satellite image map depicting the proposed mine property, provided by the Moffat County Recorder's office, with the location of several of the uranium mine locations marked with "*" **See: Exhibit 2 (a)-(b) attached hereto. Also see, "Hydrology Report" JFM Consulting, attached hereto.**

Skull Creek Residents are most concerned with the location of the "Skull Creek Mine", the "Cleta Group" mine and the "Unnamed Uranium Occurrence" located within the subject Strip Mine site. The past mining operations date back as far as the 1920's and were likely not done in any sophisticated manner, and the possibility of disturbing the soils on or around the location of such uranium mining operations could disturb mine tailings and introduce hazardous uranium material into the air, with the potential to cause severe health issues for the residents as well as any employees working in that environment.

The Skull Creek Residents specifically object to the Strip Mine's disturbance of surface soils and subsoils in the area on the basis of release of hazardous and toxic uranium into the atmosphere, and demand that the appropriate State and/or Federal entities are involved in investigation of the uranium materials and their potential for harm.

DUST, IN GENERAL:
At this juncture, it should come as no surprise that the Skull Creek Residents have no faith in the ability of the Strip Mine to adequately and competently regulate the dust control necessary on the Strip Mine's location, nor the roads they propose to employ for ingress/egress to the Strip Mine's location.

EXCESSIVE NOISE, EMISSIONS:
As previously noted above, assuming that the Strip Mine were able to secure adequate volumes of water to provide effective dust control on the roads and subject site, such dust control would require a fleet of approximately 17 water tanks alone, traveling constantly up and down County 104 and into the Strip Mine site. This is in addition to the massive excavation equipment and behemoth mining dump trucks that will be operating on the site and in and out of the Skull Creek area via the 104. These vehicles are primarily diesel, and their emission levels are excessive and will generally foul the air. The incline of the Old Mine Road has the potential for trucks to employ their "jake brakes" which will add

to the constant noise pollution assaulting the peaceful enjoyment of the Skull Creek Residents as well as disturbing the wildlife in the area.

The Skull Creek Residents specifically object to the introduction of excessive tankers, trucks and equipment that will create uncontrolled dust, diesel emissions and excessive noise, affecting the residents and the wildlife and destroying the residents right of peaceful enjoyment of their properties.

3. AS TO THE IMPACT OR POTENTIAL IMPACT ON THE HEALTH AND SAFETY OF THE SKULL CREEK RESIDENTS AND OTHERS, BEING EXPOSED TO DANGEROUS TRAFFIC AND ROAD CONDITIONS:

County Road 104: The Skull Creek Residents must all make use of County Road 104 for access to their properties. County Road 104 is a moderately narrow, gravel road, just wide enough for two passenger vehicles to comfortably pass with care. The road is also frequented by elk and deer, which the residents carefully watch for, especially during rutting season and when they become active in the spring. The road is not designed to accommodate oversized loads, track hoes, mining trucks or other large excavation and mining equipment. Allowing such vehicles to overrun the small county road will create a hazardous road environment and a danger to the health and safety of the residents and others.

Colorado State Hwy. 40: In addition to the danger created on the County Road 104, there also exists the potential for extreme safety issues in so many vehicles exiting and entering County Road 104 via State Highway 40. Highway 40 is a two lane rural highway, bordered mostly by deep bar ditches, and no room for turn pockets or merge lanes. At the time of this writing, it is important to note that Colorado Department of Transportation, ("CDOT") had not been notified as to the existence of the Strip Mine's proposed project, and we are informed that CDOT intends to contact those entities involved and investigate the impact on the traffic on State Highway 40. It is important to note that at the eastern end of the 104, where the Strip Mine is proposing ingress and egress, the approach onto the 40 from the 104 provides very limited visibility both for those attempting to merge onto the highway and most especially for those attempting to slow down and access the 104.

The Skull Creek Residents specifically object to the use of the County Road 104 based on the creation of dangerous traffic and road conditions, and creation of dangerous and hazardous road conditions on and about Colorado State Highway 40.

4. AS TO THE ENVIRONMENTAL IMPACT ON THE NATIVE WILDLIFE AND PLANT LIFE:

Skull Creek Residents refer to the letter from Bill DeVergie, Area Wildlife Manager with Colorado Parks and Wildlife, received by Stephanie Mitchell, Division of Reclamation, Mining and Safety on January 17, 2020, it was communicated that, in a nutshell, Colorado Parks and Wildlife has deemed the Strip Mine proposed area to be located within a designated "Elk winter concentration area; Elk severe winter range; Mule deer winter concentration area; Mule deer severe winter range; Pronghorn overall range; Pronghorn winter range; and, Pronghorn perennial water source."

CPW then made the recommendation, based on the wildlife sensitivity in the area and their reliance on the area for winter survival, that the Strip Mine restrict its traffic on the parcel to the hours of 10:00 am – 3:00 pm, from December 1 to April 15, annually.

Skull Creek Residents are disappointed, but not surprised at the response to Parks and Wildlife's restrictions, wherein the Strip Mine basically thumbs its nose at the restrictions as follows:

> "a. Uinta Mining proposes to disturb only a small portion of the permit area, approximately 140 acres of the 480 acres of the permit area. The affected lands lie between two small ridges along with some surface to the south between the south ridges and county road 104. *Those valleys and grass lands to the north within the permit boundaries will be undisturbed allowing continued critical habitat for elk and deer.*
>
> b. *Economically, Uinta Mining requires only one shift per day for mining operations, being day shift. That shift requires a 12 hour work period beginning 7:00 AM to 7:00 PM. This will need to occur year round.* (emphasis added.)
>
> c. Because of the small footprint of disturbance, the existing noise and impact of the County road 104, the community of Skull Creek, the operation of the Colorado Dept. of Transportation shed and operations area, Highway 40, and the overall range of elk and deer habitat around the project area suggests that this operation will have little impact to winter range."

Skull Creek Residents take exception to the Strip Mine's lack of knowledge of the area and ignorance of the impact upon the wildlife in the Skull Creek area in the operation of the Strip Mine.

First addressing the Strip Mine's assertion that operation of loud and massively invasive heavy equipment over an area encompassing 140 acres plus the constant traffic on their proposed access road, County Road 104 and Highway 40 would not create a significant disturbance to the wildlife in the area is simply ludicrous.

Secondly, the Strip Mine clearly has not done any research into the current state of peace and quiet existing in and around the proposed site, and is ignorant of the fact that there is <u>virtually no noise or disturbance created on County Road 104</u>. Currently, one could potentially stand in the middle of County Road 104 for hours and not see a vehicle. The residents using County Road 104 use the thoroughfare with respect, and can say with absolute certainty that none of the Residents drive heavy equipment in and out of Skull Creek on a daily basis. The Strip Mine's assertion that the State Dept. of Transportation's shed and operations area creates any significant disturbance is again, stated with a complete lack of knowledge regarding the DOT's yard. DOT does not use County Road 104 west of their yard. They use a minimal length of the 104 for ingress and egress onto State Highway 40, and the traffic created is minimal, as that yard is manned by a very small skeleton crew.

Lastly, Skull Creek Residents find it incredible that the Strip Mine would profess to know more about elk and deer habitat and behavior and contradict the District Wildlife Manager for the State of

Colorado Parks and Wildlife – whose job it is to know their district, the wildlife contained in it and their behavior, habitat and needs.

The Skull Creek Residents live in Skull Creek, in part, because of the close proximity to the majestic wildlife that exists in the area, and the Residents treat the local wildlife with respect and care, and strive to make as little impact as possible to their habitat.

For all of the reasons stated in Section 4, above, the Skull Creek Residents strongly oppose the operation of a Strip Mine in the proposed area, and strongly support the position taken by Colorado Parks and Wildlife, as such a disturbance as proposed by the Strip Mine will adversely affect the elk and deer winter range and cause the wildlife significant damage.

5. AS TO THE IMPACT ON VALUATION OF THE SKULL CREEK RESIDENTS PROPERTIES, BOTH TANGIBLE AND INTANGIBLE, INCLUDING "STIGMA".

Skull Creek Residents specifically oppose the operation of a Strip Mine in the Skull Creek area based on the devaluation of property that Skull Creek Residents will suffer as a result of being in close proximity of the Strip Mine, and the adverse stigma of living adjacent to or in proximity to a strip mine will cause a diminution of value that cannot be reversed and cannot make the homeowners whole.

Any potential buyer seeking land in a quiet, peaceful rural area will most certainly not choose to purchase a piece of property adjacent or near an operating strip mine, with massive, noisy, emission spewing heavy equipment challenging residents for use of the road. The introduction of a strip mine in the Skull Creek area will most certainly have an adverse effect on the value of the property, and will create a "stigma" about the area.

The Colorado Supreme Court in *Bd. Of County Commissioners v. Slovek,* 723 P.2d 1309 (Colo. App. 1990) suggests that stigma damages may be allowed if repair of diminution in value damages cannot make a plaintiff whole.

SUMMATION:

For all of the reasons set forth above in Sections 1 through 5, the undersigned, Skull Creek Residents strongly oppose the Strip Mine's construction and operation of a strip mine on the subject property owned by the State of Colorado and located in the middle of the Skull Creek area.

The signature pages attached below, singularly and in counterpart, are incorporated in and become a part of this Objection.

Dated: March 22, 2020

SKULL CREEK HOMEOWNER/WELL OWNER
SIGNATURE PAGE TO OBJECTION TO PERMIT FOR STRIP MINING

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
1.				
2.		Well No. 295388 Res. Domestic	CHARLES NOVAK and JOY MULLER 340 County Road 95, Dinosaur, CO (Trout Replat, formerly lots 59, 60, 61) 970-629-9611	
3.		Well No's. 297760 Domestic 298417 Domestic	COLORADO BUGS JOHN B. SNYDER	
			Joe D. Long Vicky L. Long 685 Jones twist RD Dinosaur CO. 81610	

SKULL CREEK HOMEOWNER/WELL OWNER
SIGNATURE PAGE TO OBJECTION TO PERMIT FOR STRIP MINING

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
1.				
2.		Well No. 295388 Res. Domestic	CHARLES NOVAK and JOY MULLER 340 County Road 95, Dinosaur, CO (Trout Replat, formerly lots 59, 60, 61)	
3.		Well No's. 297760 Domestic 298417 Domestic	COLORADO BUGS JOHN B. SNYDER	
4.		WELL UNKNOWN # DOMESTIC	BARBARA LIETZART BROWN 1057 MILLER CREEK RD. DINOSAUR LOT #34	Barbara Lietzart Brown
5.		WELL UNKNOWN # DOMESTIC	JOHN WAGNER 306 CRATOSAURUS, DINOSAUR LOT #47	John Wagner
6.				
7.		Well Unknown # Domestic	RAY and JANET MILLER 6836 County Road 104, Dinosaur CO	
8.				
9.				
10.				
11.		NO well as yet	LEONA HEMMERICH 11018 Hwy. 40, Dinosaur, CO 81610	Leona R Hemmerich

SKULL CREEK HOMEOWNER/WELL OWNER
SIGNATURE PAGE TO OBJECTION TO PERMIT FOR STRIP MINING

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
1.			Matthew Miller 4282 County Road 104, Craig, CO. 81625 (970)261-2202 Contact Address 2023 North 20th Street, Grand Junction, Co. 81501	
2.		Well No. 295388 Res. Domestic	CHARLES NOVAK and JOY MULLER 340 County Road 95, Dinosaur, CO (Trout Replat, formerly lots 59, 60, 61) 970-629-9611	
3.		Well No's. 297760 Domestic 298417 Domestic	COLORADO BUGS JOHN B. SNYDER	
3-4			Steve Woolsey Kathryn Woolsey 3319 CR 104 Dinosaur CO 81610 970-319-6246	

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
7.		Well Unknown # Domestic	RAY and JANET MILLER 6836 County Road 104, Dinosaur CO	
8.				
9.				
10.				
11. 21. 22.			LEONA HEMMERICH 11018 Hwy. 40, Dinosaur, CO 81610	

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
28.		Well 190431 Domestic	ROBERT WITHERELL	
29.				
30.				
31.		Well 288752 Well 277876 Domestic	CHARLEY and KATHY COOK 218 Cook CV, Dinosaur, CO	
32.			JURASSIC CORPORATION 706 South 9th St., Grand Junction,CO Attn: Gary Dean **	
33.				
34.		well Domestic	COLORADO BUGS, LLC	
35.				
36.			MARIA ELENA ROSA SELLITTO 2021 Falcon Hill Rd., Fort Collins, CO 80524	
37.			SKULL CREEK PALEO LLC 2990 County Rd. 104 Mail: 5170 Dee Alva Dr., Fairfield, OH 45014	
38.			SKULL CREEK PALEO LLC 2990 County Rd. 104 Mail: 5170 Dee Alva Dr., Fairfield, OH 45014	
39.			JONES TWIST, LLC (Delinquent) GLEN OLIVER SUTTON (Agent, Deceased) 2990 County Rd. 104, Dinosaur CO 81618	
40.			JONES TWIST, LLC (Delinquent) GLEN OLIVER SUTTON (Agent, Deceased) 2990 County Rd. 104, Dinosaur CO 81618	
41.				

Lot No.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
13.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	
14.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	
15.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	
16.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	
17.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	
18.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	
19.			SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	

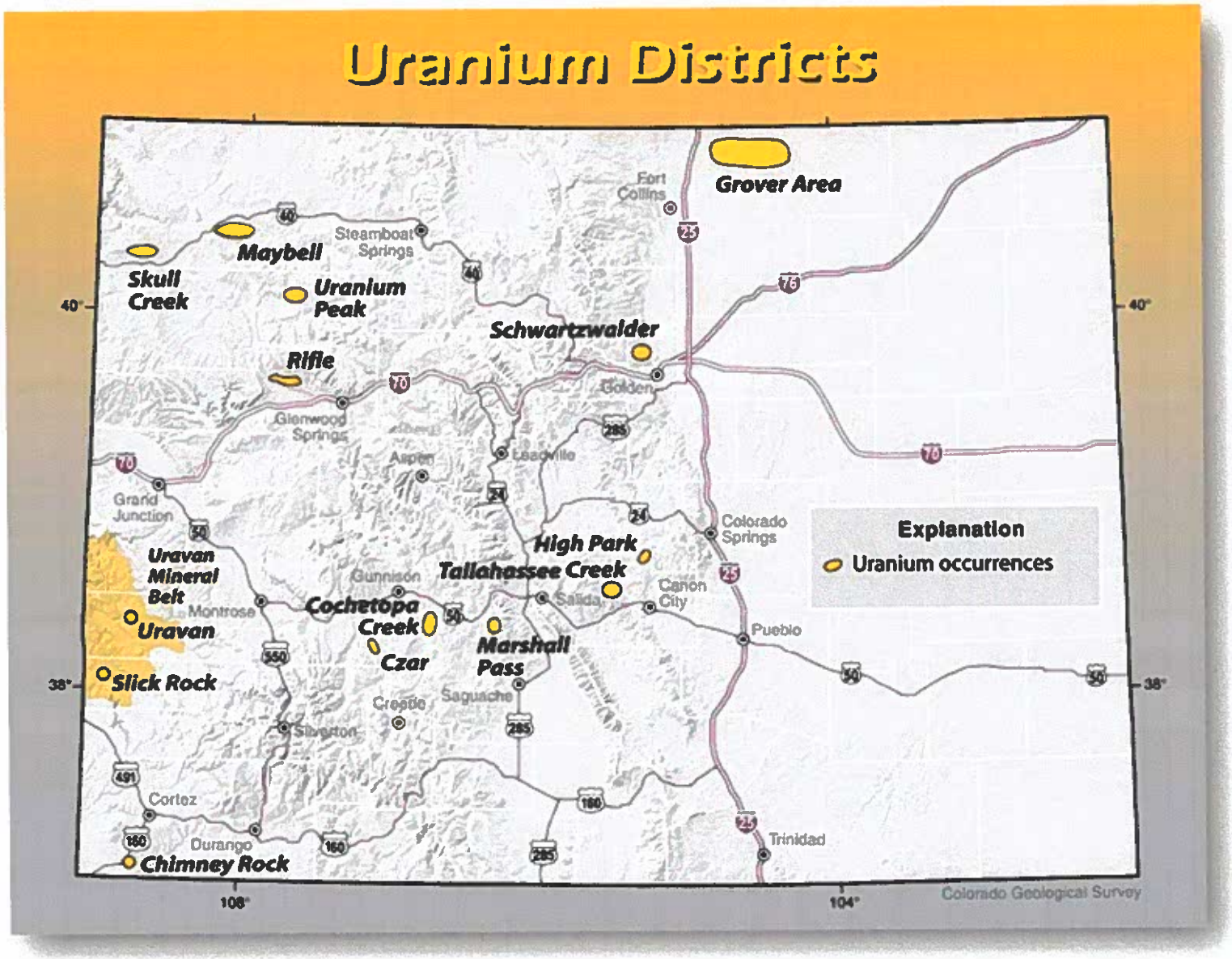
LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
25, 31		Well 288752 Well 277876 Domestic	CHARLEY and KATHY COOK 218 Cook CV, Dinosaur, CO	Charley Cook
26.		Well 307752 Well 307753 Domestic Irrigation	MIKE ENGLERT 1590 Miller Creek Road, Dinosaur CO 81610	Michael A. Englert
28.		Well 190431 Domestic	ROBERT WITHERELL	

46. (1)		Well 159741 Well 159740 Residential	GLENN SUTTON (DECEASED) SCOTT and LINDA BRYNILDSON 1831 Railroad Ave., Rifle, CO 81650	A. H. Sutton Linda Brynildson
46. (2)		Well 161355 Residential	FRANCIS LEWIS	
39.			JONES TWIST, LLC (Delinquent) GLEN OLIVER SUTTON (Agent, Deceased) 2990 County Rd. 104, Dinosaur CO 81618	Janet L. Ogden Linda Brynildson
40.			JONES TWIST, LLC (Delinquent) GLEN OLIVER SUTTON (Agent, Deceased) 2990 County Rd. 104, Dinosaur CO 81618	Janet L. Ogden Linda Brynildson
48.				
49.				
50.		Well 126165 Residential	FRANCIS LEWIS BARNETT 608 N. Vernal Ave., Vernal, UT 84078	
51.			FRANCIS LEWIS BARNETT 349 Old Mine Road, Dinosaur CO	
2.				
53.			FRANCIS LEWIS BARNETT 349 Old Mine Road, Dinosaur CO	
54.				
55.				
56.				

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
57.				
58.		Well 143038 Household only	MURRAY HOUSTON	
59.		Well 131367 Residential	CHARLES NOVAK	Charles Novak
1, 2	Skull Creek Flats	Well Residential	Thomas A. Miller Thomas A. Miller	3123 CO. Rd 10 Dinosaur Co.
5, 6, 7	Skull Creek Flats	Well Residential	Thomas A. Miller Thomas A. Miller	

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
71.		Well 277856 Residential	COLLEEN MURPHY and LONNY COHEE 213 Rim Road, Dinosaur CO 81610	
			332 W. MAIN # 131 VERNAL UT 84078 435-828-0515	KEN BEDWELL Kenneth Bedwell
76. 80. 81.			JOSEPH JOHN BAKKER TRUST P.O. Box 1641, Vernal, UT 84078	
77.			NEIL R. and LINNEA M. BROWNE 1203 Rim Road, Dinosaur, CO Mail: 36105 County Rd. 74-A4, Peetz, CO 80747	

LOT NO.	SUB.	WELL INFO.	NAME/ADDRESS/CONTACT INFO.	SIGNATURE
99.			BARBI J. and STEPHEN BURCHARD P.O. BOX 431, FRUITA, CO 81521 Mail: Attn: Gracie Campbell 260 Jason Road, Dinosaur, CO 81610	
100.			NINA KNUPPEL P.O. Box 244, Pine Bluffs, WY 82082	
101.			JEFFREY M. BARNES 3100 County Road 104, Dinosaur CO	
102.		Well 183212 Domestic	JIM THOMAN DIANE THOMAN	
1. 2.		Well, Domestic Unknown	4544 County Rd. 104 CODY DENNING 970 620 3232	
103. 104.		Well 204064 Domestic	LORI LAZARUS 480 Frontier Rd., Dinosaur CO	



On the Colorado Plateau of southwest Colorado, more than 1200 uranium mines were driven from outcrop into the Salt Wash member of the Morrison Formation during the twentieth century. The mines were underground and very sinuous, as the miners attempted to follow the river channel deposits containing the uranium. Many of these same mines are being reentered today, and further developed. There remains an abundant uranium resource within southwestern Colorado and the central Rocky Mountains of Colorado.

URANIUM DEPOSITS IN THE SKULL CREEK AND URANIUM PEAK DISTRICTS, NORTHWEST COLORADO

By Y. WILLIAM ISACHSEN

U. S. Atomic Energy Commission, Grand Junction, Colorado

INTRODUCTION

Production of radioactive minerals in northwestern Colorado reportedly began in 1903 when a property near Skull Creek, Colorado yielded several tons of ore which were shipped to France for radium extractions. The most significant production of radioactive minerals from northwestern Colorado, however, has come from the Uranium Peak area near Meeker. The economic geology of deposits in these two areas is herein summarized.

SKULL CREEK DISTRICT

Location and History of Deposits

Uranium ore has been mined from two areas in the Skull Creek District. The oldest and most extensive workings are on the southern flank of Skull Creek anticline in the N½NE¼, sec. 35, T. 4 N., R. 101 W., where copper-uranium-vanadium ore occurs in a basal sandstone of the Curtis (?) formation. A second mining property resulted when a small uranium orebody was discovered in the Weber sandstone immediately north of the Skull Creek anticline in 1954. This deposit was largely mined out shortly after discovery.

The Curtis deposit is reached by travelling west from Skull Creek, Colorado, for one mile; thence north on an unimproved dirt road for 1½ miles.

This deposit was mined for radium in 1903 and thereafter lay idle until the 1920's when a small amount of ore was mined for vanadium content. The property again became inactive until 1953, when claims were relocated as the Blue Mountain Group, and development drifting for uranium was initiated (McDougald, in press).

Structure

Skull Creek anticline trends east-west, and is located north of Skull Creek, Colorado. Dips are greatest along the southern flank, site of the Curtis deposit, where they measure up to 45 degrees. Flanks of the upwarp are characterized by broad warps plunging down dip, and widespread fracturing which includes longitudinal, transverse, and diagonal joints. Locally displacements of a few inches occur parallel to or along longitudinal joints.

Stratigraphy

Rocks exposed in the area range from the Pennsylvanian Weber sandstone to the Mancos shale of Cretaceous age. Uranium deposits have only been found in the Curtis and Weber formations in the area, and the Weber deposit has not been studied. The Chinle (Shinarump ?) and Morrison formations, which are major uranium producing units on the Colorado Plateau, have not yet proven to be economically important in the Skull Creek area.

Stratigraphic relationships relating to the Blue Mountain Group Mine are described by McDougald (in press). The Curtis host rock overlies massive Entrada sandstone, and is a water-laid, ripple marked, thinly bedded, sandstone ranging in thickness from six inches to 3 feet. This unit grades upward into marine sandstone containing pelecypods, thus marking the transition from terrestrial to marine environment.

Economic Geology

Ore minerals in the Blue Mountain Group mine are all oxidized, and include azurite, malachite(carnotite, calcio-volborthite, and black vanadium minerals. These occur disseminated in the host sandstone, with concentrations along zones containing carbonized plant fragments. Ore is confined to the thin-bedded sandstone unit between the eolian Entrada sandstone and the overlying fossiliferous sandstone. Immediately below the ore-bearing unit, the Entrada is limonite-stained, thus facilitating recognition of the contact during drilling.

Known orebodies are elongated parallel to strike of host beds but no ore trends are known. The production potential of the basal Curtis is regarded as poor (Isachsen, et al., 1955).

URANIUM PEAK DISTRICT

Location and History of Deposits

Mines in the Uranium Peak District are located northeast of Meeker, Colorado, in T. 2 N., R. 91 W. and R. 92 W. The area may be reached by traveling 3 miles northeast from Meeker on State Highway 13 to County Highway 320, thence 11 miles to the Forest Service road which leads east from Yellowjacket Pass into the mining area.

Enter Map Title...
Web Print: 10/16/2019

0 3,009 6,019 Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Section 36
The proposed mine

Exhibit 2a

Filter By


Lone Mountain
2346 m
Commodity: Uranium
Simple
Topography
Satelite
Claims
USGS Records
Bozo Copper Occurrence
Skull Creek Mine
Cleta Group
Unnamed Uranium Occurrence
Biles Shaft
Glory Bee Mine
MASSADONA
US 40
US 40
1 km
1 mi
Leaflet | © OpenMapTiles © OpenStreetMap contributors

JFM Consulting

Jocelyn F. Mullen, PE, CWP 970-210-8366

2027 Charis Court, Grand Junction, CO 81507

Ms. Lori Lazarus
Skull Creek Homeowners
1665 E. 4500 S.
Vernal, UT 84078

Dear Ms. Lazuras,

At your request, I reviewed several environmental issues of concern surrounding the application for a sand and gravel mining operation in NW Colorado based out of Lot 50 of the Skull Creek Estates Subdivision, accessing State land to the east.

The first issue I evaluated is the adequacy of a 15 gpm/1 ac-ft per year well permit from Colorado DNR to supply water for dust suppression of mining and transportation activities.

At 15 gal/min x 60 min/hr x 12 hrs/day x 5 days/week x 50 weeks/year =2,700,000 gal/yr

If the well were pumped during all operating hours, 2.7 Mgal of water could be pumped from the well per year. With a 1 ac-ft annual limit, equal to 325,829 gal/ yr, clearly this cannot be allowed for the mine to remain in compliance. So the question arises of how the mine would be required to accurately measure its withdrawal from the well, to ensure the surrounding well owners were not damaged by excessive withdrawals. Conversely, the mine owners should be required to conduct a pump test to demonstrate that withdrawal at the rate and amount allowed will not damage surrounding residential well owners.

Based on these calculations, the mine would only be able to pump during 12% of their operating hours without exceeding their permitted rate or volume of withdrawal.

Reviewing the literature for application rates for dust suppression, one gleans that application rates are site, climate, and soil type specific. However, several studies considered application rates in the 1.9 mm/ft2 -100 mm/ft2 range, calling 1.9 to 2mm/ft2 the low end, and 100 mm/ft2 the high end of application rates (Water Application for Dust Control in the Central Plateau: Impacts, Alternatives, and Work Strategies; September 2018, by Yonkofski, CMR et al., Prepared for the U.S. Department of Energy, under Contract DE-AC05-76RL01830, Pacific Northwest National Laboratory).

The actual application rate needed to provide adequate dust suppression in the Skull Creek area will be best determined empirically, as a revisable Best Management Practice (BMP). However, the climatological and ecological setting for Skull Creek is similar to that of the Hanford Site. The Central