

# 2018 ANNUAL REPORT

Submit the completed document and any additional information identified to the Division by March 31, 2019.

## GENERAL INFORMATION

Company Name	Castle Valley Mining, LLC	Mine Name	Bear Canyon Mine
Permit Number	C/015/0025	Permit Expiration Date	11-2-2020
Operator Name	CASTLE VALLEY MINING	Phone Number	+1 (435) 687-2178
Mailing Address	P.O. BOX 475	Email	jjorgensen@rhinolp.com
City	HINTINGTON		
State	UTAH	Zip Code	84528

## DOG M File Location or Annual Report Location

Excess Spoil Piles	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required	
Refuse Piles	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Not Required	
Impoundments	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required	PONDS A,B,C,D LOCATED IN THE GOOGLE DRIVE UNDER IMPUNDMENTS
Other:		

## OPERATOR COMMENTS

**REVIEWER COMMENTS**     Met Requirements     Did Not Meet Requirements

# COMMITMENTS AND CONDITIONS

The Permittee is responsible for ensuring annual technical commitments in the Mining and Reclamation Plan and conditions accepted with the permit are completed throughout the year. The Division has identified these commitments below and has provided space for you to report what you have done during the past year for each commitment. If additional written response is required, it should be filed as an attachment to this report.

**Title: SUBSIDENCE MONITORING**

**Objective:** Determine subsidence effects from mining

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Submit surveyed monitoring data to the Division annually. **Please include a map showing the location of the subsidence points in relationship to the underground workings.**

**Citation:** Chapter 5, Appendix 5C, page 5c-8

**OPERATOR COMMENTS**

MAP INCLUDED IN GOOGLE DRIVE MARKED SUBSIDENCE 2018

**REVIEWER COMMENTS**

Met Requirements

Did Not Meet Requirements

**Title: WILDLIFE AWARENESS PROGRAM**

**Objective:** To inform employees of the wildlife and the need for protection in the mine facilities and access road areas.

**Frequency:** As needed

**Status:** Ongoing

**Reports:** Summary in Annual Report

**Citation:** Chapter 3, page 3-45

**OPERATOR COMMENTS**

OUR EMPLOYEES ARE AWARE OF OUR WILDLIFE HERE IN BEAR CANYON. WILDLIFE AWARENESS PROGRAM INCLUDED IN OUR ANNUAL TRAINING.

**REVIEWER COMMENTS**

Met Requirements

Did Not Meet Requirements

**Title: IDENTIFICATION OF NEW CULTURAL RESOURCES**

**Objective:** If during the course of mining operations, previously unidentified cultural resources are discovered, Permittee shall ensure that the site(s) is not disturbed and notify the Division. The Division shall inform the Permittee of necessary actions required.

**Frequency:** The Permittee shall implement the mitigation measures required by the Division within the time specified by the Division.

**Status:** Ongoing

**Reports:** Annual

**Citation:** Chapter 4, page 4-15

**OPERATOR COMMENTS**

OUR EMPLOYEES ARE AWARE THAT IF UNIDENTIFIED CULTURAL RESOURCES ARE DISCOVERED, THAT THE SITE WILL NOT BE DISTURBED AND NOTIFY THE DIVISION.

**REVIEWER COMMENTS**

Met Requirements

Did Not Meet Requirements

**Title: RAPTOR SURVEYS**

**Objective:** Verify presence of nesting birds and status of nests. Raptor surveys will be conducted every year during the mine life. Include follow-up surveys if conducted.

**Frequency:** Annually

**Status:** Ongoing

**Reports:** Annual

**Citation:** Chapter 3, page 3-70

**OPERATOR COMMENTS**

RAPTOR SURVEYS INCLUDED IN GOOGLE DRIVE MARKED RAPTOR SURVEY 2018

**REVIEWER COMMENTS**

Met Requirements

Did Not Meet Requirements

# FUTURE COMMITMENTS AND CONDITIONS

The following commitments are not required for the current annual report year, but will be required by the permittee in the future as indicated by the "status" field. These commitments are included for information only, and do not currently require action. If you feel that the commitment is no longer relevant or needs to be revised, please contact the Division.

## **Title: VEGETATION MONITORING PROCEDURES**

**Objective:** Qualitative observations of revegetated areas will be made yearly throughout the 10 year liability period.

**Frequency:** Quantitative measurements of reclamation will be collected during years 2,3,5,9 and 10 of the same bond liability period. Any areas not achieving success will be evaluated and revegetated as needed.

**Status:** Begin at reclamation

**Reports:** Annual Report

**Citation:** Chapter 3, Page 3-41

## **Title: SEALING OF WELLS**

**Objective:** Permanent closure of wells using measures required by DOGM to prevent access and contamination of groundwater.

**Frequency:** Once, as wells are no longer needed.

**Status:** Wells are in use until no longer needed.

**Reports:** Report status when mining is terminated or wells no longer needed.

**Citation:** Chapter 6, page 6-10

## **Title: DETAILED REVEGETATION PLAN**

**Objective:** The Permittee will submit a detailed revegetation plan in the last five year permit renewal prior to reclamation.

**Frequency:** Once during last five year permit renewal prior to reclamation.

**Status:** During last permit renewal prior to reclamation.

**Reports:** NA

**Citation:** Chapter 3, page 3-46

## **Title: ANALYSIS FOR RE-INITIATION OF SAMPLING SITES**

**Objective:** Notify DOGM of any reactivation of water sampling stations if mining is to occur in the following areas: Leases U-46481, U-024316, T16N R8E Secs 7, 17, 18, 19, 20, Mine #4, Mohrland area, or portal opening accessing Leases U61048 or U61049

**Frequency:** Sampling to initiate at least 6 months prior to mining these areas

**Status:** Ongoing

**Reports:** Notify Division in Annual Report if mining is to occur

**Citation:** Chapter 7, page 7-49

## **Title: SUBSTITUTE TOPSOIL TESTING**

**Objective:** To confirm the suitability of substitute topsoil prior to reclamation

**Frequency:** Within 5 years prior to reclamation

**Status:** Future Commitment

**Reports:** Proposed substitute topsoil that is designated by reclamation area in Summary Table 2-8 and further described in Appendix 5-1 will be re-tested in the final five years of operations according to Table 5O-1 and testing will include total petroleum hydrocarbons by EPA methods 8015 and 418.1

**Citation:** Chapter 2, page 2-35

# REPORTING OF OTHER TECHNICAL DATA

Please list other technical data or information that was not included in the form above, but is required under the approved plan, which must be periodically submitted to the Division.

Please list attachments:

**REVIEWER COMMENTS**  Met Requirements

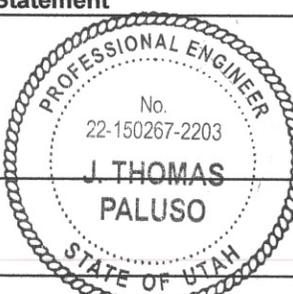
Did Not Meet Requirements

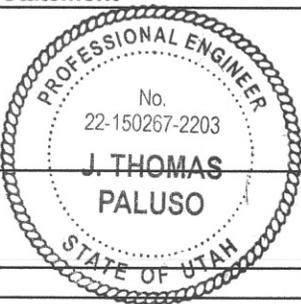
# MAPS

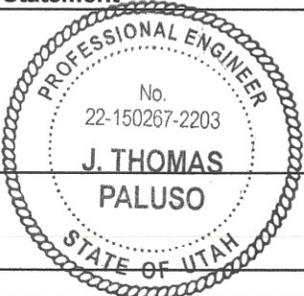
Copies of mine maps, current and up-to-date, are to be provided to the Division as an attachment to this report in accordance with the requirements of R645-301-525.240. The map copies shall be made in accordance with 30 CFR 75.1200 as required by MSHA. Mine maps are not considered confidential.

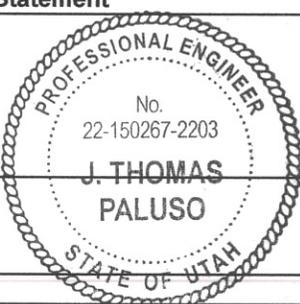
Map Name	Map Number	Included		Confidential	
		Yes	No	Yes	No
Annual Subsidence Map		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mine Map		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

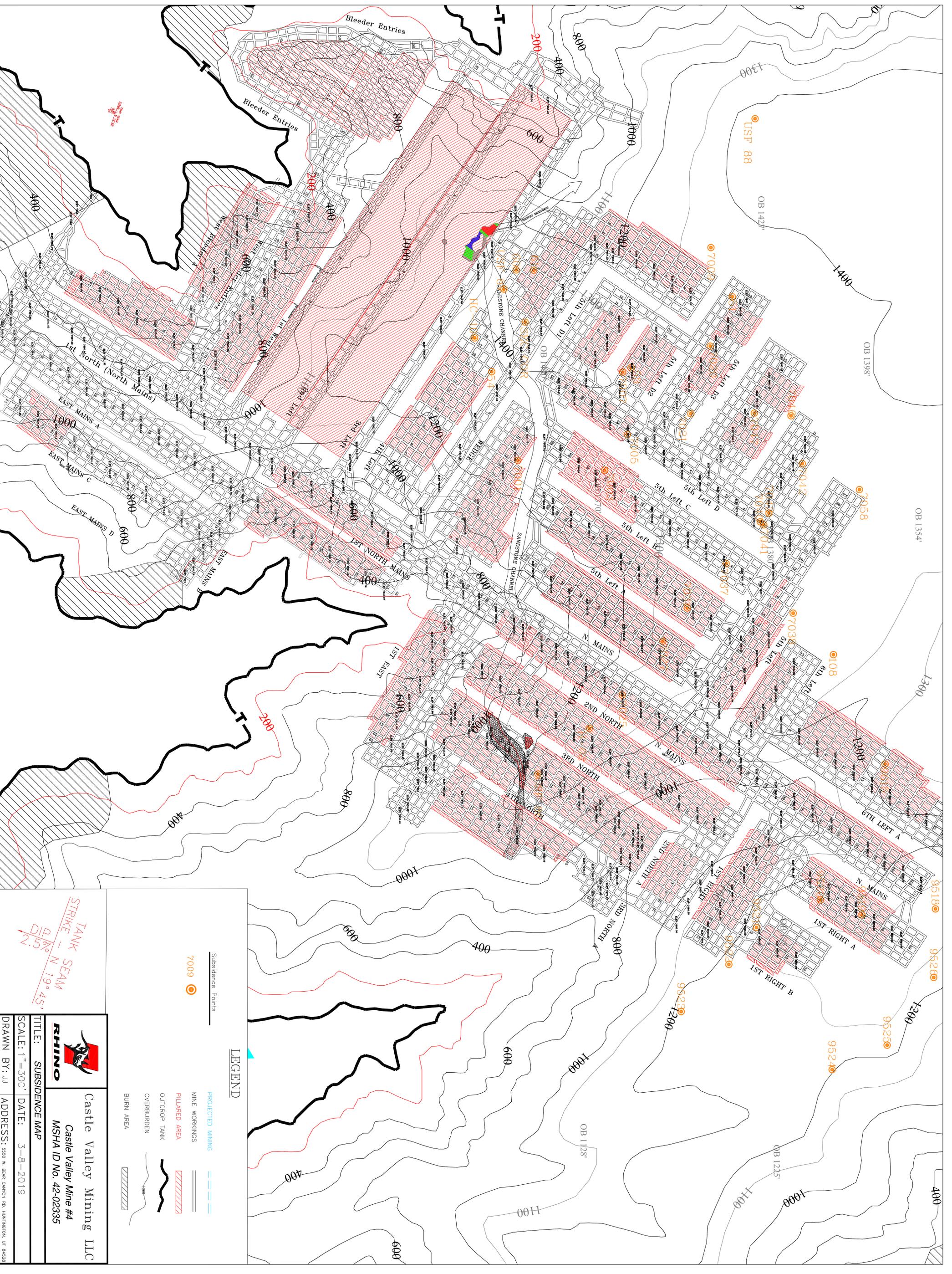
**REVIEWER COMMENTS**     Met Requirements                       Did Not Meet Requirements

<b>1. IMPOUNDMENT INSPECTION AND CERTIFIED REPORT</b>		<b>007A</b>	<b>Page 1 of 2</b>
<b>Permit Number:</b>	ACT/015/025	Report Date: 2/5/2019	
<b>Mine Name:</b>	Castle Valley Mine		
<b>Company Name</b>	Rhino Energy LLC		
<b>Impoundment Identification:</b>		Sediment Pond "A"	
	<b>Impoundment Number:</b>	002A	
	<b>UPDES Permit Number:</b>	UTG040006	
	<b>MSHA ID Number:</b>	42-02263, 42-02335	
<b>IMPOUNDMENT INSPECTION</b>			
<b>Inspection Date:</b>	2/4/2019		
<b>Inspected By:</b>	J.T. Paluso		
<b>Reason for Inspection:</b>	Annual Inspection		
(Annual, Quarterly or other Periodic Inspection, Critical Installation or Completion of Construction)			
<b>1. Describe any appearances of any instability, structural weakness, or any other hazardous condition.</b>			
The pond's dam shows no signs of structural instability or other hazardous conditions.			
Required for an impoundment which functions as a SEDIMENTATION POND	<b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes and estimated average elevation of existing sediment.</b>		
	Sediment storage capacity is 59,670 cu ft.		
	60% Cleanout Elevation: 7,086'		
	100% Sediment storage elevation: 7,087.9'		
	Existing sediment elevation: Approx. average sediment elevation 7,080'		
	<b>3. Principle and emergency spillway elevations</b>		
	Principle spillway elevation: 7,088'		
	Emergency spillway elevation: 7,094.5'		
<b>4. Field Information:</b> Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.			
Pond ice elevation is 7081'. Vegetative cover looked good with no signs of erosion.			
<b>5. Field Evaluation:</b> Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.			
Principal spillway appears to have been bent during the removal of sediment in May 2010. This structure is still working properly. Bent pipe should be straightened to preserve water discharge elevations.			
<b>Qualified Statement</b>		I hereby certify that I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure, that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.	
		<b>Signature:</b> <i>J. T. Paluso</i> <b>Date:</b> <i>2/5/2019</i>	

<b>1. IMPOUNDMENT INSPECTION AND CERTIFIED REPORT</b>		007A	Page 1 of 2
Permit Number:	ACT/015/025	Report Date: 2/05/2019	
Mine Name:	Castle Valley Mine		
Company Name	Rhino Energy LLC		
Impoundment Identification:	Impoundment Name	Sediment Pond "B"	
	Impoundment Number:	003A	
	UPDES Permit Number:	UTG040006	
	MSHA ID Number:	42-02263, 42-02335	
<b>IMPOUNDMENT INSPECTION</b>			
Inspection Date:	2/4/2019		
Inspected By:	J.T. Paluso		
Reason for Inspection:	Annual Inspection		
(Annual, Quarterly or other Periodic Inspection, Critical Installation or Completion of Construction)			
<b>1. Describe any appearances of any instability, structural weakness, or any other hazardous condition.</b>			
The pond's dam shows no signs of structural instability or other hazardous conditions.			
Required for an impoundment which functions as a SEDIMENTATION POND	<b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes and estimated average elevation of existing sediment.</b>		
	Sediment storage capacity is approximately 16,740 cu ft. Sediment has recently been removed.		
	60% Cleanout Elevation: 7,062.9'		
	100% Sediment storage elevation: 7,063.4'		
	Existing sediment elevation: Approx. average sediment elevation 7,059.2'		
	<b>3. Principle and emergency spillway elevations</b>		
	Principle spillway elevation: 7,064.9'		
	Emergency spillway elevation: 7066.9'		
<b>4. Field Information:</b> Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.			
Pond has water. Vegetative cover looked good with no signs of erosion.			
<b>5. Field Evaluation:</b> Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.			
Sediment has recently been removed. Water elevation is 7060.2'.			
<b>Qualified Statement</b>		I hereby certify that I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure, that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.	
		Signature: <i>J. T. Paluso</i>	Date: <i>2/5/2019</i>

<b>1. IMPOUNDMENT INSPECTION AND CERTIFIED REPORT</b>		<b>007A</b>	<b>Page 1 of 2</b>
<b>Permit Number:</b>	ACT/015/025	Report Date: 2/05/2019	
<b>Mine Name:</b>	Castle Valley Mine		
<b>Company Name</b>	Rhino Energy LLC		
<b>Impoundment Identification:</b>		Sediment Pond "C"	
	<b>Impoundment Number:</b>	002A	
	<b>UPDES Permit Number:</b>	UTG040006	
	<b>MSHA ID Number:</b>	42-02263, 42-02335	
<b>IMPOUNDMENT INSPECTION</b>			
<b>Inspection Date:</b>	2/4/2019		
<b>Inspected By:</b>	J.T. Paluso		
<b>Reason for Inspection:</b>	Annual Inspection		
(Annual, Quarterly or other Periodic Inspection, Critical Installation or Completion of Construction)			
<b>1. Describe any appearances of any instability, structural weakness, or any other hazardous condition.</b>			
The pond's dam shows no signs of structural instability or other hazardous conditions.			
Required for an impoundment which functions as a SEDIMENTATION POND	<b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes and estimated average elevation of existing sediment.</b>		
	Sediment storage capacity is 1,820 cu ft.		
	60% Cleanout Elevation: 7,030.3'		
	100% Sediment storage elevation: 7,031.4'		
	Existing sediment elevation: Average sediment elevation 7,029.6'		
	<b>3. Principle and emergency spillway elevations</b>		
	Principle spillway elevation: 7,032.3'		
	Emergency spillway elevation: 7,035.3'		
<b>4. Field Information:</b> Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on outslopes of embankment erosion/repairs, monitoring information, vegetation on outslopes of embankments, etc.			
Pond has approximately 5" of water. Vegetative cover looked good with no signs of erosion.			
<b>5. Field Evaluation:</b> Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.			
This structure is still working properly.			
<b>Qualified Statement</b>	I hereby certify that I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure, that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.		
	<b>Signature:</b> <i>J.T. Paluso</i>	<b>Date:</b> 2/5/2019	

<b>1. IMPOUNDMENT INSPECTION AND CERTIFIED REPORT</b>		007A	Page 1 of 2
Permit Number:	ACT/015/025	Report Date: 2/05/2019	
Mine Name:	Castle Valley Mine		
Company Name	Rhino Energy LLC		
Impoundment Identification:	Impoundment Name	Sediment Pond "D"	
	Impoundment Number:	006A	
	UPDES Permit Number:	UTG040006	
	MSHA ID Number:	2-02263, 42-02335	
<b>IMPOUNDMENT INSPECTION</b>			
Inspection Date:	2/4/2019		
Inspected By:	J.T. Paluso		
Reason for Inspection:	Annual Inspection		
(Annual, Quarterly or other Periodic Inspection, Critical Installation or Completion of Construction)			
<b>1. Describe any appearances of any instability, structural weakness, or any other hazardous condition.</b>			
The pond's dam shows no signs of structural instability or other hazardous conditions. Pond elevations have been corrected.			
Required for an impoundment which functions as a SEDIMENTATION POND	<b>2. Sediment storage capacity, including elevation of 60% and 100% sediment storage volumes and estimated average elevation of existing sediment.</b>		
	Sediment storage capacity: Estimated 1800 cu ft		
	60% Cleanout Elevation: 7,641.8'		
	100% Sediment storage elevation: 7,643.1'		
	Existing sediment elevation: Approximately 7638'.		
	<b>3. Principle and emergency spillway elevations</b>		
	Principle spillway elevation: 7,644.1'		
	Emergency spillway elevation: 7,646.6'		
<b>4. Field Information:</b> Provide current water elevation, whether pond is discharging, type and number of samples taken, monitoring/instrumentation information, inlet/outlet conditions or other related activities associated with the pond including but not limited to sediment cleanout, pond decanting, embankment erosion/repairs, monitoring information, vegetation on out slopes of embankment erosion/repairs, monitoring information, vegetation on out slopes of embankments, etc.			
Incised pond has minimal vegetation with no signs of erosion. Pond was dry.			
<b>5. Field Evaluation:</b> Describe any changes in the geometry of the impounding structure, average and maximum depths and elevations of impounded water, estimated sediment or slurry volume and remaining storage capacity, estimated volume of water impounded and any other aspect of the impounding structure affecting its stability or function which has occurred during the reporting period.			
Pond elevation has been modified in the past. Oil removal elbow still needs to be installed on principal spillway. Pond has recently been cleaned.			
<b>Qualified Statement</b>		I hereby certify that I am experienced in the construction of impoundments; I am qualified and authorized under the direction of a Registered Professional Engineer to inspect the condition and appearance of impoundments in accordance with the certified and approved designs for this structure, that the impoundment has been maintained in accordance with approved design and meet or exceed the minimum design requirements under all applicable federal, state and local regulations; and, that inspections and inspection reports are made by myself and include any appearances of instability, structural weakness or other hazardous conditions of the structure affecting stability.	
		Signature: <i>J.T. Paluso</i>	Date: 2/5/2019



TANK SEAM  
 STRIKE - N 19° 45'  
 DIP 2.5%

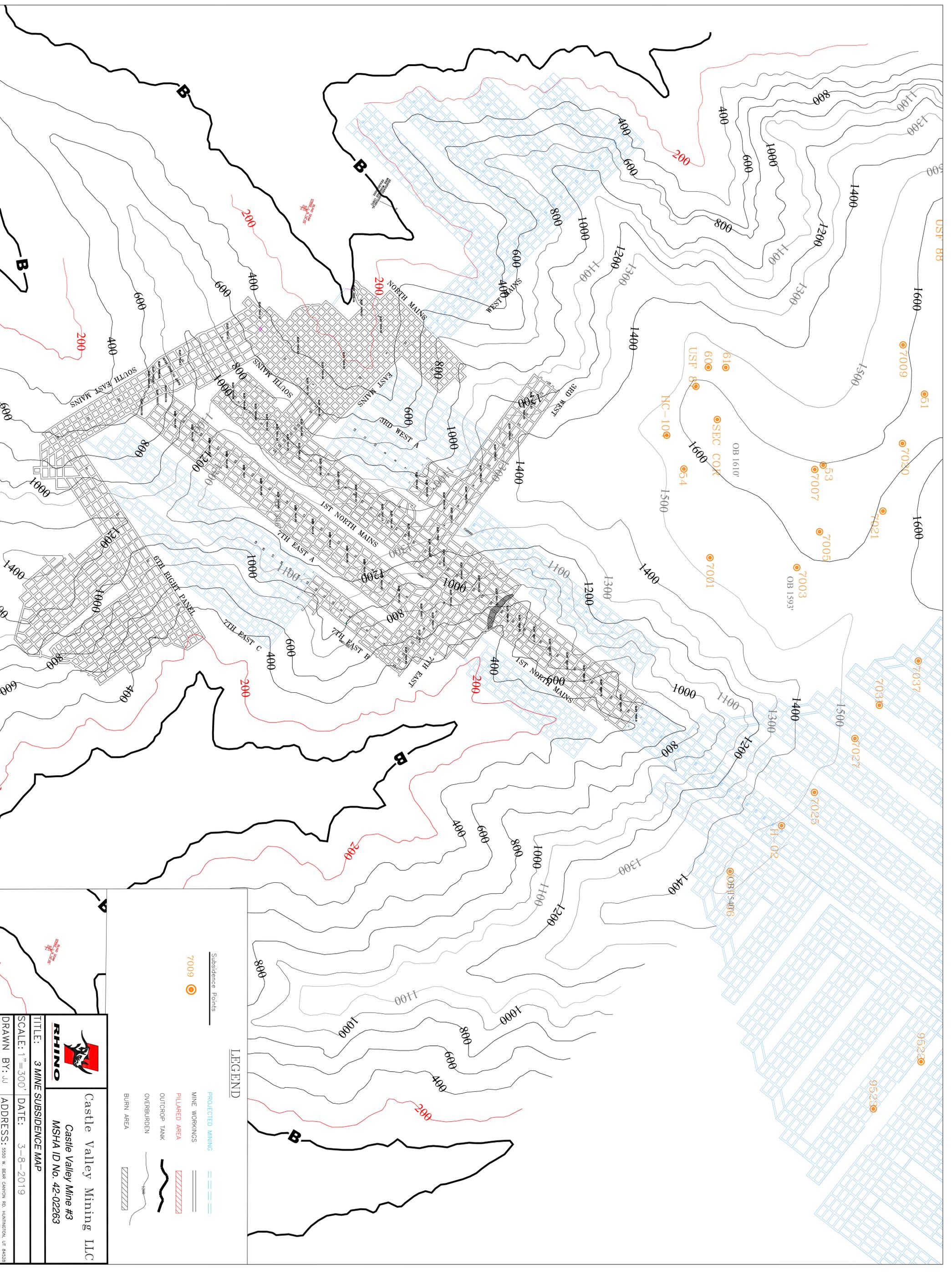
**RHINO** 

Castle Valley Mining LLC  
 Castle Valley Mine #4  
 MSHA ID No. 42-02335

TITLE: SUBSIDENCE MAP  
 SCALE: 1" = 300'  
 DATE: 3-8-2019  
 DRAWN BY: JI  
 ADDRESS: 5550 W. BEAR CANYON RD. HUNTINGTON, UT 84303

**LEGEND**

- Subsidence Points: 7009
- PROJECTED MINING: [Blue dashed line symbol]
- MINE WORKINGS: [Black line symbol]
- PILARED AREA: [Red hatched area symbol]
- OUTCROP TANK: [Black wavy line symbol]
- OVERBURDEN: [Black wavy line symbol]
- BURN AREA: [Hatched area symbol]



**LEGEND**

- Subsidence Points: 7009
- PROJECTED MINING: [Blue dashed line symbol]
- MINE WORKINGS: [Black line symbol]
- PILARED AREA: [Red hatched line symbol]
- OUTCROP TANK: [Black line symbol]
- OVERBURDEN: [Red line symbol]
- BURN AREA: [Thick black line symbol]

**RHINO** Castle Valley Mining LLC  
 Castle Valley Mine #3  
 MSHA ID No. 42-02263

TITLE: 3 MINE SUBSIDENCE MAP  
 SCALE: 1" = 300'  
 DATE: 3-8-2019  
 DRAWN BY: JJ  
 ADDRESS: 5550 W. BEAR CANYON RD. HUNTINGTON, UT 84302

**RHINO - CASTLE VALLEY MINING, LLC**  
**November 2018 - Annual Subsidence Survey**

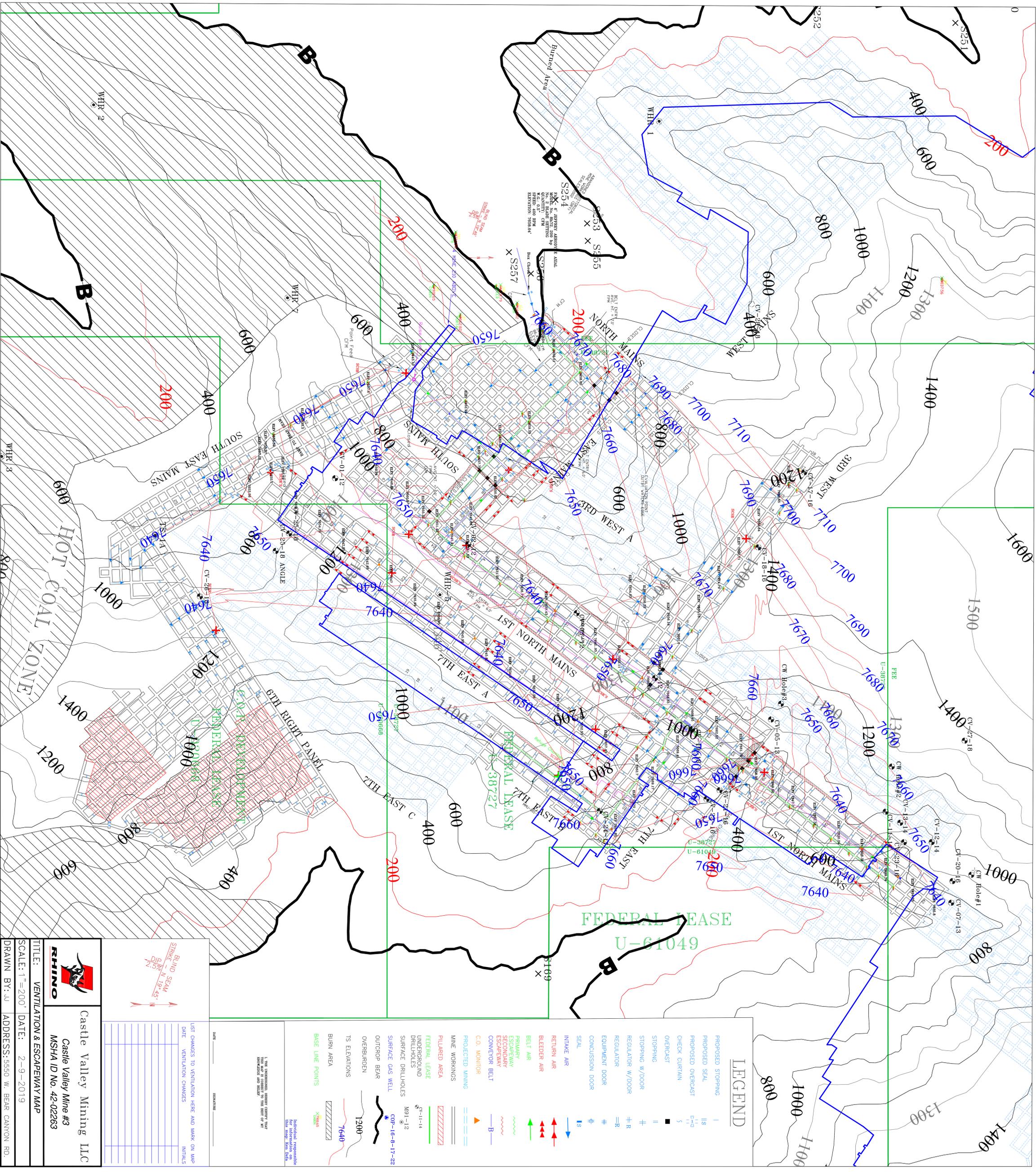
Local - Mine Grid  
 US Survey Feet

	2011		2012		2013		2014		2015		2016		2017		2018		2017-2018		
POINT NAME	NORTHING	EASTING	ELEVATION			DESCRIPTION													
<b>SURVEY CONTROL</b>																			
Jaren	393054.68	2118087.27	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82	7862.82				Portal roof bolt
Cody	396881.88	2117797.46	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56	9037.56				Roof bolt on ridge
USF 88	400241.32	2117374.40	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00	9457.00				US Fuel monument
<b>MEASURED POINTS</b>																			
USF 86	397853.04	2124558.33	9257.79	9257.79	9257.79	9257.79	9257.79	9257.79	9257.79	9257.79	9257.37	9257.16	9257.09	9257.09	0.07				US Fuel monument
USF 87	397477.08	2119241.97	9361.60	9361.58	9361.60	9361.62	9361.66	9361.65	9361.65	9361.62	9361.62	9361.62	9361.62	9361.62	0.00				US Fuel monument
HC 104	397155.69	2119777.29	9342.42	9342.34	9342.35	9342.36	9342.37	9342.37	9342.37	9342.34	9342.34	9342.35	9342.35	9342.35	-0.01				Aerial target
SECTION COR.	397711.91	2119605.13	9360.78	9360.73	9360.78	9360.73	9360.78	9360.83	9360.78	9360.78	9360.79	9360.79	9360.81	9360.81	-0.02				Cor. 13-18-24-19
51	399991.27	2119326.68	9377.02	9377.00	9376.94	9376.97	9376.88	9376.87	9376.87	9376.95	9376.95	9376.97	9376.97	9376.97	-0.02				Old CW Nail
53	398876.88	2120105.47	9351.63	9351.60	9351.63	9351.61	9351.51	9351.56	9351.56	9351.45	9351.45	9351.46	9351.46	9351.46	-0.01				Old CW Nail
54	397344.13	2120147.61	9338.27	9338.25	9338.24	9338.24	9338.29	9338.26	9338.26	9338.27	9338.27	9338.24	9338.24	9338.24	0.03				Old CW Nail
60	397612.68	2119033.17	9341.33	9341.31	9341.28	9341.26	9341.39	9341.37	9341.37	9341.34	9341.34	9341.32	9341.32	9341.32	0.02				Old CW Nail
61	397805.20	2119034.97	9303.95	9303.92	9303.93	9303.96	9304.08	9304.04	9304.04	9304.17	9304.17	9304.13	9304.13	9304.13	0.04				Old CW Nail
H-02	398418.80	2124057.80	9280.23	9280.32	9280.29	9280.28	9279.92	9279.56	9279.56	9279.46	9279.46	9279.41	9279.41	9279.41	0.05				Aerial target
7001	397631.19	2121120.12	9314.89	9314.90	9314.88	9314.91	9314.76	9314.77	9314.77	9314.77	9314.77	9314.70	9314.70	9314.70	0.07				Drill hole in stone
7003	398587.12	2121227.74	9330.49	9330.53	9330.52	9330.50	9330.26	9330.23	9330.23	9330.26	9330.26	9330.26	9330.26	9330.26	0.00				Drill hole in stone
7005	398837.32	2120835.56	9344.74	9344.77	9344.80	9344.81	9344.57	9344.58	9344.58	9344.55	9344.55	9344.59	9344.59	9344.59	-0.04				Drill hole in stone
7007	398784.23	2120153.00	9357.07	9357.09	9357.08	9357.10	9356.87	9356.85	9356.85	9356.93	9356.93	9356.92	9356.92	9356.92	0.01				Roof bolt
7009	399755.75	2118787.41	9373.94	9373.95	9373.95	9373.93	9373.86	9373.89	9373.89	9373.85	9373.85	9373.82	9373.82	9373.82	0.03				Roof bolt
7020	399748.80	2119868.08	9363.64	9363.64	9363.67	9363.64	9363.48	9363.45	9363.45	9363.48	9363.48	9363.49	9363.49	9363.49	-0.01				Roof bolt
7021	399534.00	2120608.72	9335.41	9335.39	9335.43	9335.42	9335.33	9335.34	9335.34	9335.36	9335.36	9335.39	9335.39	9335.39	-0.03				Rebar
7025	398780.34	2123692.63	9291.55	9291.58	9291.52	9291.56	9291.41	9291.12	9291.12	9291.10	9291.10	9291.07	9291.07	9291.07	0.03				Roof bolt
7027	399226.23	2123101.63	9309.81	9309.50	9309.49	9309.47	9309.44	9309.44	9309.44	9309.44	9309.44	9309.40	9309.40	9309.40	0.04				Roof bolt
7031	399495.28	2122737.96	9322.41	9322.14	9322.12	9322.10	9322.01	9321.88	9321.88	9321.94	9321.94	9321.94	9321.94	9321.94	0.00				Rebar
7037	399923.44	2122252.31	9336.45	9336.42	9336.46	9336.44	9336.44	9336.27	9336.27	9336.29	9336.29	9336.29	9336.29	9336.29	0.00				Drill hole in stone
7038	400660.66	2122795.16	9290.65	9290.67	9290.66	9290.67	9290.44	9290.41	9290.41	9290.41	9290.41	9290.38	9290.38	9290.38	0.03				Drill hole in stone
108	401103.58	2123249.49	9303.38	9303.38	9303.40	9303.40	9303.26	9303.24	9303.24	9303.26	9303.26	9303.20	9303.20	9303.20	0.06				Drill hole in stone
7040	400298.73	2121793.12	9348.89	9348.91	9348.90	9348.90	9348.88	9348.87	9348.87	9348.85	9348.85	9348.80	9348.80	9348.80	0.05				Drill hole in stone
7041	400336.90	2121826.52	9351.14	9351.12	9351.12	9351.15	9351.07	9351.09	9351.09	9351.06	9351.06	9351.06	9351.06	9351.06	0.00				Drill hole in stone
7042	400760.89	2121155.79	9368.94	9368.97	9368.91	9368.93	9368.86	9368.84	9368.84	9368.84	9368.84	9368.85	9368.85	9368.85	-0.01				Drill hole in stone
7043	400393.78	2121698.65	9352.35	9352.32	9352.34	9352.33	9352.19	9352.19	9352.19	9352.17	9352.17	9352.21	9352.21	9352.21	-0.04				Drill hole in stone
7046	400636.74	2120631.98	9380.58	9380.60	9380.63	9380.65	9380.53	9380.49	9380.49	9380.48	9380.48	9380.53	9380.53	9380.53	-0.05				Drill hole in stone
7047	400233.18	2120602.12	9364.93	9364.92	9364.93	9364.95	9364.87	9364.88	9364.88	9364.91	9364.91	9364.93	9364.93	9364.93	-0.02				Roof bolt
7058	401389.57	2121440.23	9367.74	9367.76	9367.71	9367.74	9367.63	9367.65	9367.65	9367.62	9367.62	9367.58	9367.58	9367.58	0.04				Roof bolt
9518	402226.36	2126036.89		9316.28	9316.33	9316.31	9316.34	9316.32	9316.32	9316.30	9316.30	9316.35	9316.35	9316.35	-0.05				Drill hole in stone
9519	401417.44	2126104.04		9299.34	9299.45	9299.40	9299.17	9299.17	9299.17	9299.20	9299.20	9299.16	9299.16	9299.16	0.04				Drill hole in stone
9520	400960.03	2125938.17		9298.11	9298.13	9298.10	9297.84	9297.84	9297.84	9297.82	9297.82	9297.82	9297.82	9297.82	0.00				Drill hole in stone
9521	400256.37	2126240.56		9281.72	9281.79	9281.76	9281.47	9281.44	9281.44	9281.45	9281.45	9281.41	9281.41	9281.41	0.04				Drill hole in stone
9522	399953.29	2126645.50		9268.89	9268.93	9268.94	9268.72	9268.73	9268.72	9268.72	9268.72	9268.75	9268.75	9268.75	-0.03				Drill hole in stone
9523	399428.51	2127162.49		9249.20	9249.19	9249.21	9249.17	9249.19	9249.19	9249.17	9249.17	9249.19	9249.19	9249.19	-0.02				Drill hole in stone
9524	401089.42	2127798.48		9261.67	9261.68	9261.70	9261.56	9261.55	9261.55	9261.56	9261.56	9261.50	9261.50	9261.50	0.06				Drill hole in stone
9525	401694.22	2127530.06		9285.48	9285.39	9285.35	9285.35	9285.35	9285.36	9285.36	9285.36	9285.40	9285.40	9285.40	-0.04				Aerial target
9526	402207.22	2126788.84		9304.29	9304.24	9304.19	9304.19	9304.20	9304.16	9304.19	9304.19	9304.20	9304.20	9304.20	-0.01				Rebar
9615	401671.29	2124448.46			9304.78	9304.81	9304.76	9304.78	9304.78	9304.77	9304.77	9304.77	9304.77	9304.77	0.00				Rebar
NW 18 16S8E	402976.84	2119613.89				9454.78	9454.80	9454.79	9454.79	9454.81	9454.81	9454.80	9454.80	9454.80	0.01				Section Corner



**WARE SURVEYING & ENGINEERING**  
 G.P.S. & CONVENTIONAL SURVEYING - AUTOCAD MAPPING - CIVIL ENGINEERING





**RHINO**

Castle Valley Mining LLC  
 Castle Valley Mine #3  
 MSHA ID No. 42-02263

TITLE: VENTILATION & ESCAPEWAY MAP  
 SCALE: 1"=200' DATE: 2-9-2019  
 DRAWN BY: JJ ADDRESS: 5550 W. BEAR CANYON RD.

BLIND SEAM  
 STRIKE - N 19°-45' E  
 DIPS - 5%

DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_

LIST CHANGES TO VENTILATION HERE AND MARK ON MAP  
 DATE: \_\_\_\_\_ INITIALS: \_\_\_\_\_  
 DATE: \_\_\_\_\_ INITIALS: \_\_\_\_\_  
 DATE: \_\_\_\_\_ INITIALS: \_\_\_\_\_

INDIVIDUALS RESPONSIBLE FOR THIS MAP: Ken Dehn

1. THE UNDERSIGNED, LICENSED GEOTECHNICAL ENGINEER, HEREBY CERTIFIES THAT THE INFORMATION CONTAINED HEREON IS TRUE AND CORRECT AND BASED ON HIS KNOWLEDGE AND BELIEF.

**LEGEND**

- PROPOSED STOPPING
- PROPOSED SEAL
- PROPOSED OVERCAST
- CHECK CURTAIN
- OVERCAST
- STOPPING
- STOPPING w/DOOR
- REGULATOR w/DOOR
- EQUIPMENT DOOR
- CONCUSSION DOOR
- SEAL
- INTAKE AIR
- RETURN AIR
- BLEEDER AIR
- BELT AIR
- PRIMARY ESCAPEWAY
- SECONDARY ESCAPEWAY
- CONVEYOR BELT
- C.O. MONITOR
- PROJECTED MINING
- MINE WORKINGS
- PILLARED AREA
- FEDERAL LEASE
- UNDERGROUND DRILLHOLES
- SURFACE DRILLHOLES
- SURFACE GAS WELL
- OUTCROP BEAR
- OVERBURDEN
- TS ELEVATIONS
- BURN AREA
- BASE LINE POINTS

CV-16-8-17-22  
 COP-16-8-17-22

