

December 21, 2023

**Re: Colorado State Pit & Location Remedial Action Plan
Investment Equipment LLC - Operator # 10330
Colorado State 1&2 Pit (Facility ID 117586) SWNW Sec 36-3S-R53W,
“A” 1 Pit (Facility ID 117587) NESW Sec 36-3S-R53W,
Colorado State Location (Facility ID 470686),
Remediation Project # 18894**

Soil confirmation sample data indicate that SAR, EC, and boron at the site exceeds the Table 915-1 soil suitability levels for reclamation. Therefore, the remediation project cannot be closed at this time. ECMC removed the closure request. If the Operator proposes to leave material with elevated levels of SAR, EC, and boron in situ, the Operator shall define the vertical and lateral extent of impacts and provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit the Reclamation plan pursuant to Rule 915.b. on a Form 27 Supplemental Report for Director review.

To define the vertical extent of soil suitability (ss) impacts four excavations are proposed in areas where elevated levels of SAR, EC, and boron were identified during the sampling event of 12/2/2021 where ss samples were collected from the berms at the water line as well as below the berm at ground surface, for example the West Pit West Berm sample (WPWB2021) as well as below the berm at ground surface at the West Pit West Surface (WPWS2021). Four surface samples beneath the berms from 2021 ss sampling identified areas with elevated ss results at the surface level below the berm, the West Pit West Surface (WPWS2021), West Pit South Surface (WPSS2021), East Pit East Surface (EPES2021), and East Pit South Surface (EPSS2021) confirmed ss impacts had affected soil below the berm. Sampling performed 8/1/2023 was performed outside of berm locations to confirm lateral extent of surface impacts at six locations including the West Pit West Surface (WPWS2023), the West Pit South Surface (WPSS2023), the East Pit North Surface (EPNS2023), the East Pit South Surface (EPSS2023), the East Pit West Surface (EPWS2023), and the East Pit East Surface (EPSS2023) which exhibited no ss impacts confirming lateral extent surrounding the pits. With confirmation that ss impacts had not affected soils outside the berms from 2023 sampling four locations were identified where vertical extent had not been confirmed from 2021 surface sampling below the berms including the West Pit West Surface (WPWS2021), West Pit South Surface (WPSS2021), East Pit East Surface (EPES2021), and East Pit South Surface (EPSS2021). With ECMC approval, samples will be collected underneath the berms at the failed 2021 surface sample locations at 3', 4', and 5' below ground surface (bgs) and analyzed for Table 915-1 Soil Suitability. Sample results from these excavations will guide the depth to which sodic soils are removed in these areas below the berms. These four locations will also address the lateral extent of sodic soils when combined with results of samples collected August 1, 2023, at the West Pit West Surface, West Pit South Surface, East Pit East Surface, East Pit North Surface, East Pit South Surface, and East Pit West Surface, which all exhibited concentrations below Soil Suitability for Reclamation standards. When sodic soils are identified and removed at the four proposed excavation locations, they will be added to all berm soils



Geospatial Consulting Services

which are known to be sodic. These sodic soils will then be spread within a gypsum treatment area extending across the existing Colorado State Location. Please see attached Figure 1 - All Samples Taken To Date where green points represent existing sample locations where soil suitability below standards have already been identified, and Figure 2 - Proposed Sample Locations for Vertical Delineation where blue points represent proposed sample locations for vertical delineation. With ECMC approval, the excavations can be performed to complete delineation and then a detailed treatment and reclamation plan that includes: gypsum treatment products, irrigation and soil tilling techniques, sampling frequency, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species can be provided to the ECMC.

Operator shall not bury any sodic soil or other E&P waste on site.

No sodic soil will be buried during this process, all sodic soils will be identified and included within the treatment area.

Please contact me directly if you have any questions regarding this remedial action plan or require additional information.

Sincerely,
GIS Peace LLC,

Carter Peace
GIS Peace Environmental Scientist
carter.peace@gispeace.com
(303) 854-7337

Attachments:

Figure 1 – All Samples Taken To Date

Figure 2 – Proposed Sample Locations for Vertical Delineation



Legend

● Proposed Sample Locations for Vertical Delineation

<div> <div> 060120 Feet </div> <div> N </div> </div>		Investment Equipment, LLC	
		CO State Location Closure Washington County, Colorado	
DATE: 12/21/2023		Proposed Sample Locations for Vertical Delineation	Figure 2
DESIGNED BY: C. Peace			
DRAWN BY: N. Peace			

**INVESTMENT EQUIPMENT LLC
COLORADO STATE LOCATION CLOSURE
TABLE 915-1 SOIL ANALYTICAL RESULTS SUMMARY**

	Table 915 ⁽¹⁾ Standard (Residential)	WPWW (West pit west wall) 12/2/2021	WPNW (West pit north wall) 12/2/2021	WPEW (West pit east wall) 12/2/2021	WPSW (West pit south wall) 12/2/2021	EPWW (East pit west wall) 12/2/2021	EPNW (East pit north wall) 12/2/2021	EPEW (East pit east wall) 12/2/2021	EPSW (East pit south wall) 12/2/2021	WPNW (West pit north wall) 4/19/2022	WPB (West pit base) 4/19/2022	EPBN (East pit base north) 4/19/2022	EPBS (East pit base south) 4/19/2022	TB (Tank battery) 4/19/2022	ST (Skim tank) 4/19/2022	HT (Heater treater) 4/19/2022	WPB @ 7 (West pit base @ 7) 7/21/2022
Sample Depth		5'	5'	5'	5'	5'	3'	1'	1'	7'	1'	1'	1'	1'	1'	1'	7'
PID Reading ⁽²⁾		10.8	20.9	1.04	13.7	9.3	0.7	0.2	0.3	14.7	122.9	6.7	2.4	0.7	1.7	0.4	31.4
Organic Compounds in Soils																	
Benzene (mg/kg)	1.2	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Toluene (mg/kg)	490	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Ethylbenzene (mg/kg)	5.8	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Total Xylenes (mg/kg)	58	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
1,2,4 Trimethylbenzene	30	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1,3,5 Trimethylbenzene	27	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Napthalene	2	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038	<0.0038
GRO (mg/kg)	500	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	1,100	1.9	0.86	<0.50	<0.50	<0.50	<0.50
C10-C28 DRO (mg/kg)	500	<50	7,000	<50	<50	<50	<50	<50	<50	320	1,500	<50	<50	<50	<50	<50	<50
C28-C36 ORO (mg/kg)	500	<50	1,300	<50	<50	<50	<50	<50	<50	<50	290	<50	<50	<50	<50	<50	<50
TPH ⁽³⁾ (mg/kg)	500	<50	8,300	<50	<50	<50	<50	<50	<50	321.4	2,890	<50	<50	<50	<50	<50	<50

**INVESTMENT EQUIPMENT LLC
COLORADO STATE LOCATION CLOSURE
TABLE 915-1 SOIL ANALYTICAL RESULTS SUMMARY**

	Table 915 ⁽¹⁾ Standard (Residential)	WPWW (West pit west wall) 12/2/2021	WPNW (West pit north wall) 12/2/2021	WPEW (West pit east wall) 12/2/2021	WPSW (West pit south wall) 12/2/2021	EPWW (East pit west wall) 12/2/2021	EPNW (East pit north wall) 12/2/2021	EPEW (East pit east wall) 12/2/2021	EPSW (East pit south wall) 12/2/2021	WPNW (West pit north wall) 4/19/2022	WPB (West pit base) 4/19/2022	EPBN (East pit base north) 4/19/2022	EPBS (East pit base south) 4/19/2022	TB (Tank battery) 4/19/2022	ST (Skim tank) 4/19/2022	HT (Heater treater) 4/19/2022	WPB @ 7 (West pit base @ 7) 7/21/2022
Acenaphthene	360	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Anthracene	1800	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Benzo (a) anthracene	1.1	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Benzo (a) pyrene	0.11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Benzo (b) fluoranthene	1.1	<0.00500	<0.00500	<0.00500	0.0221	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0677	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Benzo (k) fluoranthene	11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Chrysene	110	0.00799	0.0343	0.00953	0.00434	0.00841	<0.00500	<0.00500	<0.00500	<0.00500	0.136	0.0355	0.00510	<0.00500	<0.00500	<0.00500	<0.00500
Dibenz (a,h) anthracene	0.11	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Fluoranthene	240	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Fluorene	240	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Indeno (1,2,3-cd) pyrene	1.1	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
Pyrene	180	<0.00500	0.0142	<0.00500	0.0401	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.146	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

**INVESTMENT EQUIPMENT LLC
COLORADO STATE LOCATION CLOSURE
TABLE 915-1 SOIL ANALYTICAL RESULTS SUMMARY**

	Table 915 ⁽¹⁾ Standard (Residential)	WPWW (West pit west wall) 12/2/2021	WPNW (West pit north wall) 12/2/2021	WPEW (West pit east wall) 12/2/2021	WPSW (West pit south wall) 12/2/2021	EPWW (East pit west wall) 12/2/2021	EPNW (East pit north wall) 12/2/2021	EPEW (East pit east wall) 12/2/2021	EPSW (East pit south wall) 12/2/2021	WPNW (West pit north wall) 4/19/2022	WPB (West pit base) 4/19/2022	EPBN (East pit base north) 4/19/2022	EPBS (East pit base south) 4/19/2022	TB (Tank battery) 4/19/2022	ST (Skim tank) 4/19/2022	HT (Heater treater) 4/19/2022	WPB @ 7 (West pit base @ 7) 7/21/2022
1- Methylnaphthalene	18	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
2- Methylnaphthalene	24	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

1. Standards for soil are taken from Table 915-1, effective January 15, 2021.

2. PID - Photo-ionization detector

3. TPH - Total volatile and extractable petroleum hydrocarbons. Value calculated by adding GRO, ORO, and DRO concentrations.

ECMC = Energy and Carbon Management Commission

(<) = Analytical result is less than the indicated laboratory reporting limit.

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total extractable petroleum hydrocarbons - diesel range organics

ORO = Total volatile petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

BOLD = Analytical result is in exceedance of COGCC Table 915-1 soil standards.

**INVESTMENT EQUIPMENT LLC
COLORADO STATE LOCATION CLOSURE
TABLE 915-1 SOIL ANALYTICAL RESULTS SUMMARY**

	Table 915 ⁽¹⁾ Standard (Residential)	BACKGROUND NORTH 12/2/21	BACKGROUND SOUTH 12/2/21	WPSB ⁽²⁾ 12/2/21	WPSS ⁽²⁾ 12/2/21	Center Berm (CB) 12/2/21	Center Surface (CS) 12/2/21	WPWB 12/2/21	WPWS 12/2/21	WPNB 12/2/21	WPNS 12/2/21	EPSB ⁽³⁾ 12/2/21	EPSS ⁽³⁾ 12/2/21	EPEB 12/2/21	EPES 12/2/21	EPNB 12/2/21	EPNS 12/2/21
SOIL SUITABILITY FOR RECLAMATION																	
Boron	2 mg/l	0.6	0.7	2.1	3	2.3	0.4	2.4	5.2	1.1	0.8	2.4	2.6	2.5	2.5	2.4	1.8
Calcium	NA	2.7	6.7	0.51	0.59	34.5	7	7.56	0.61	10.34	17.88	1.18	2.21	0.42	0.64	0.74	58.6
Magnesium	NA	0.68	1.65	0.26	0.25	8.08	1.95	4.85	0.3	3.71	8.91	0.49	0.95	0.2	0.27	0.3	20.2
Sodium	NA	0.48	0.38	25.14	12.16	187	161	44.75	41.21	35.7	18	19.77	22.13	21.89	8.77	26.65	128
Sodium Adsorption Ratio	<6	0.37	0.19	40.52	18.76	57.36	1.18	17.96	61.09	13.47	4.96	21.64	17.61	39.32	13	20.21	3.68
Specific Conductance (EC)	<4mmhos/cm	0.65	0.97	1.8	1.27	2.97	4.19	3.15	3.2	2.64	2.67	1.48	1.61	2.07	1.15	27.89	1.83
pH	6-8.3	7.85	7.80	8.72	8.73	8.81	7.37	7.96	9.33	7.74	7.72	8.76	8.54	9.16	8.34	8.62	9.07

Notes:

- Standards for soil are taken from Table 915-1, effective January 15, 2021.
 - WPSB - West Pit South Berm. WPSS - West Pit South Surface
 - EPSB - East Pit South Berm. EPSS - East Pit South Surface
- BOLD** = Analytical result is in exceedance of COGCC Table 915-1 soil standards.

INVESTMENT EQUIPMENT LLC
COLORADO STATE LOCATION CLOSURE
TABLE 915-1 SOIL ANALYTICAL RESULTS SUMMARY

	Table 915 ⁽¹⁾ Standard (Residential)	SPILL 1 ⁽²⁾ 8/1/23	SPILL 2 8/1/23	SPILL 3 8/1/23	SPILL 4 8/1/23	WPWS ⁽³⁾ 8/1/23	WPSS 8/1/23	EPES 8/1/23	EPNS 8/1/23	EPSS 8/1/23	EPWS 8/1/23	S2N ⁽⁴⁾ 8/16/23	S2S 8/16/23	S2E 8/16/23	S2W 8/16/23
SOIL SUITABILITY FOR RECLAMATION															
Sample Depth		1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'
Boron	2 mg/l	0.0572	0.0608	0.101	0.0543	ND	0.0958	0.0122	ND	ND	ND	1.03	0.993	0.621	1.86
Calcium	NA	223	159	178	246	105	937	93.7	81.0	54.3	72.4	67.6	74.1	86.2	137
Magnesium	NA	69.4	29.2	40.7	61	40.4	148	8.98	10.4	11.6	13.2	12.0	13.8	15.9	22.5
Sodium	NA	273	395	187	182	73.1	205	18.5	8.67	8.48	62.7	75.7	21.5	14.5	92.6
Sodium Adsorption Ratio	<6	4.09	7.56	3.29	2.69	1.54	1.64	0.489	0.241	0.273	1.78	2.23	0.602	0.377	1.93
Specific Conductance (EC)	<4mmhos/cm	0.680	1.51	0.576	0.558	1.05	0.575	0.325	0.257	0.320	0.447	0.357	0.234	0.200	0.403
pH	6-8.3	8.24	8.02	7.76	7.52	7.59	8.09	7.70	7.77	7.32	7.55	7.40	6.85	6.66	8.18

Notes:

- Standards for soil are taken from Table 915-1, effective January 15, 2021.
 - SPILL 1 - 4 represent samples collected from historical spill sample locations
 - WPWS - West Pit West Surface. WPWS - West Pit West Surface. WPWS - West Pit West Surface. WPSS - West Pit South Surface. EPES - East Pit East Surface. EPNS - East Pit North Surface. EPSS - East Pit South Surface. EPWS - East Pit West Surface
 - S2N - Spill 2 North, S2S - Spill 2 South, S2E - Spill 2 East, and S2W - Spill 2 West
- BOLD** = Analytical result is in exceedance of COGCC Table 915-1 soil standards.

INVESTMENT EQUIPMENT LLC
COLORADO STATE LOCATION CLOSURE
TABLE 915-1 SOIL ANALYTICAL RESULTS SUMMARY

	Table 915 ⁽¹⁾ Standard (Residential)	BM1 ⁽²⁾ 8/1/23	BM2 ⁽²⁾ 8/1/23	BM3 ⁽²⁾ 8/1/23	BM4 ⁽²⁾ 8/1/23	BM5 ⁽²⁾ 8/1/23	CBV ⁽³⁾	WPB ⁽⁴⁾ 8/1/23	EPB ⁽⁴⁾ 8/1/23
METALS IN SOILS									
Sample Depth		1'	1'	1'	1'	1'	1'	9'	9'
Arsenic	0.68	0.721	0.800	1.3	0.741	0.746	1.077	0.775	0.457
Barium	15000	60.5	104.0	133	85.6	77.3	115.1	209	387
Cadmium	71	0.27	0.26	0.251	0.312	0.25	0.33	0.232	0.208
Copper	3100	1.69	1.97	2.28	1.91	1.66	2.38	2.43	1.88
Lead	400	6.50	7.10	6.18	8.27	6.77	8.71	5.77	5.56
Nickel	1500	1.78	2.48	2.56	1.81	1.94	2.64	2.6	2.27
Selenium	390	ND	ND	ND	ND	ND	ND	ND	ND
Silver	390	0.0252	0.06	0.05	0.0317	0.0300	0.0482	0.0305	0.0321
Zinc	23000	7.07	7.07	6.93	8.44	7.25	9.19	8.57	8.19
Chromium	0.3	1.69	ND	ND	ND	ND	ND	ND	ND

Notes:

- Standards for soil are taken from Table 915-1, effective January 15, 2021.
- BM1 - Background Metals 1, BM2 - Background Metals 2, etc.
- CBV - Calculated background value equals the sum of five background values / 5 x 1.25
- WPB - West Pit Base. EPB - East Pit Base

BOLD = Analytical result is in exceedance of COGCC Table 915-1 soil standards, but comply with Local Clean Up Levels