

From: [Ed Ingve](#)
To: ["Steven Arauza - DNR"](#)
Cc: ["JB Condill"](#)
Subject: RE: Bird State Remediation Project (#9615) additional sampling requirement
Date: Thursday, June 1, 2017 11:33:29 AM
Attachments: [Bird.Pit.Google.jpg](#)

Steven,

Been a little busy lately but here is an update on our Bird State Remediation Project since we last spoke on the phone:

New soil samples have been collected to help delineate the DRO plume affiliated with the Bird State Pit reclamation at your suggestion. Five new samples were collected on 5/24/2017 and submitted to SGS Accutest for analysis. Samples sites were selected as further step outs from locations which have already failed. One sample (#4D) was taken from the same location as a previous sample but was obtained at a depth of two feet. All other samples were obtained from the same approximate depth of 6 to 12 inches as the previous samples. A Google Earth plat of the sample locations has been attached.

 Included as page 5
of this pdf -Arauza

The GPS and the DRO found with each sample can be found below:

Original Sample	39.34.4104	-104.34.0816	DRO 967
Sample #1	39.34.4068	-104.34.0816	DRO 631
Sample #2	39.34.4104	-104.34.0858	DRO 895
Sample #3	39.34.4104	-104.34.0762	DRO 33.6
Sample #4	39.34.4146	-104.34.0816	DRO 2330
Sample #4D	39.34.4146	-104.34.0816	pending
Sample #5	39.34.4128	-104.34.0786	DRO 37.8
Sample #6	39.34.4170	-104.34.0818	pending
Sample #7	39.34.4051	-104.34.0818	pending
Sample #8	39.34.4102	-104.34.0883	pending
Sample #9	39.34.4140	-104.34.0868	pending

I will forward results once obtained. At that point hopefully final delineation of the DRO plume will be defined and final scraping can take place.

Thanks, Ed

From: Steven Arauza - DNR [mailto:Steven.Arauza@state.co.us]
Sent: Wednesday, April 05, 2017 11:07 AM
To: Ed Ingve
Subject: RE: Bird State Remediation Project (#9615) additional sampling requirement

Good morning, Ed.

Thank you for providing the analytical results for the samples that were collected on 3/10/2017. As you know, DRO concentrations for the North, West, and South samples exceed the Table 910-1

maximum allowable concentration standard of 500 mg/kg. Additional scraping and removal of contaminated soil is required, as you mentioned in your last email.

Please submit a site map or aerial photograph that illustrates the locations of each sample by 4/14/2017 and let me know when you plan to continue scraping. Weather-permitting, the work should be completed by the end of the month. After additional material is removed, confirmation samples will be required to verify compliance with Table 910-1 standards for TPH in soil.

Thanks again,

Steven J. Arauza, P.G.
Environmental Protection Specialist



P 303.894.2100 x5136 | F 303.894.2109 | C 720.498.5298
1120 Lincoln Street, Suite 801, Denver, CO 80203
Steven.Arauza@state.co.us | www.colorado.gov/cogcc

From: Ed Ingve [mailto:ed@renegadeoilandgas.com]
Sent: Wednesday, April 5, 2017 7:43 AM
To: 'Steven Arauza - DNR' <steven.arauza@state.co.us>
Subject: RE: Bird State Remediation Project (#9615) additional sampling requirement

Steven,

Please find attached the DRO test results for the sample grid taken in attempt to close this remediation project out. Unfortunately the sampling results are not what I was hoping for. Additional scraping and removal of contaminated soil will take place when things dry out and work can be scheduled. If you would like to see a different plan please let me know.

Thanks, Ed

From: Ed Ingve [mailto:ed@renegadeoilandgas.com]
Sent: Friday, March 17, 2017 12:34 PM
To: 'Steven Arauza - DNR'
Cc: 'jbcrog@aol.com'
Subject: RE: Bird State Remediation Project (#9615) additional sampling requirement

Steve,

Please find attached two pictures of the resampling locations at the Bird State pit for DRO compliance. Five samples were taken at 12 yards (east sample taken at 15 yards) from the original contaminated sample location. Samples were taken at between 3 and 9 inches below surface. This should give us an idea of how localized the problem with the original sample was. A cleanup strategy

will be developed after results are obtained.

I should receive results back next week and will forward them to you after I receive them. At that point I will consult with you as how to proceed.

Thanks, Ed

From: Steven Arauza - DNR [<mailto:steven.arauza@state.co.us>]
Sent: Thursday, March 09, 2017 2:40 PM
To: Ed Ingve
Subject: RE: Bird State Remediation Project (#9615) additional sampling requirement

Sorry for the delayed response. I've been in the field for the past two days.

Thank you for the update, Ed. I'll be sure to add this information to the project file and am looking forward to seeing the more complete document.

-Steve

From: Ed Ingve [<mailto:ed@renegadeoilandgas.com>]
Sent: Wednesday, March 08, 2017 10:59 AM
To: 'Steven Arauza - DNR'
Cc: 'JB Condill'
Subject: RE: Bird State Remediation Project (#9615) additional sampling requirement

Hey Steven,

Sorry about that. Just made it to location myself for the first time since we spoke. Discussed with my roustabout foreman a sampling program whereas Renegade proposes to take an additional 5 or 6 samples over the reclaimed area in an effort to determine if the DRO issue was wide spread or localized to the area where the 12/29/2016 sample was taken. Unfortunately the employee who collected the 12/29/2016 sample was not present and I could not identify the spot sampled.

We just received the sampling jars yesterday and I thought I could get the process moving. Now that will take place tomorrow. I was hoping to provide you with pictures and a diagram as to where the new samples were obtained. The lab has indicated that the analysis should take about a week once submitted.

I've also attached a copy of the seeding invoice reflecting past work. This is one of the reasons why I was onsite yesterday as I met with Steve Freese of the State Land Board regarding reclamation issues involving the site. He is requiring additional information regarding the reseeding. I thought you may have wanted to know about that also.

Hoping to have a more complete document for you by the end of the week.

Ed

From: Steven Arauza - DNR [<mailto:steven.arauza@state.co.us>]
Sent: Tuesday, March 07, 2017 11:30 AM
To: Ed Ingve
Subject: Bird State Remediation Project (#9615) additional sampling requirement

Hi Ed,

I was under the impression that you'd send an email follow-up to our discussion of additional sampling of the scraped location on 2/28. Could you send me a description of the additional sampling that you had in mind along with a diagram of proposed sampling locations?

Steven J. Arauza, P.G.
Environmental Protection Specialist I



COLORADO
Oil & Gas Conservation
Commission

Department of Natural Resources

P 303.894.2100 x5136 | C 720.498.5298 | F 303.894.2109
1120 Lincoln Street, Suite 801, Denver, CO 80203
steven.arauza@state.co.us | www.colorado.gov/cogcc



Bird State 32-1 well

Sample #6

Sample #4 & #4D

Sample #9

Sample #5

Sample #3

Original sample

Sample #8

Sample #2

Sample #1

Sample #7

© 2016 Google

Google Earth

1993

Imagery Date: 6/14/2016 39°34'41.22" N 104°34'08.01" W elev 6118 ft eye alt 6376 ft