1R - 2457

CORRESPONDENCE

2012

Griswold, Jim, EMNRD

From: Griswold, Jim, EMNRD
Sent: Wednesday, September 12, 2012 2:10 PM
To: 'Andy Cobb'
Subject: RE: WLSU #8 monitor well request

Andy,

I have reviewed Energen's proposal dated 9/11/12 to advance groundwater monitoring wells in the vicinity of the WLSU #8 injection well west of Lovington. Your proposal is approved. If at all possible, it would be helpful if a water sample from the supply well at the location be gathered and similarly assayed after adequate purging of the wellbore. Please retain a copy of this email for your files as no hardcopy will be sent. I look forward to reviewing the results of your investigation. In future correspondence please identify this situation using internal-OCD tracking designation 1R-2457. Thanks.

Jim Griswold
Senior Hydrologist
EMNRD/Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505.476.3465
email: jim.griswold@state.nm.us

From: Andy Cobb [mailto:Andy.Cobb@energen.com]
Sent: Wednesday, September 12, 2012 1:38 PM
To: Griswold, Jim, EMNRD
Cc: Joe Niederhofer; Rusty Cook; Patrick B. McMahon; Tom Hnasko; Kay Havenor; Paul Callaway; John Cox; dfield@branchranchnatural.com
Subject: WLSU #8 monitor well request

As per our conversation on 9-11, please find Energen Resources request to drill monitor wells at the West Lovington Strawn Unit #8.

For your information.

Thanks

Andy Cobb

Supervisor Safety & Environmental
Energen Resources Corporation

From: scanner@energen.com [mailto:scanner@energen.com]
Sent: Wednesday, September 12, 2012 2:32 PM
To: Andy Cobb
Subject: Message from KMBT_C360

ENERGEN
RESOURCES

September 11, 2012

Attn: Mr. Jim Griswold
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Energen #8-R, West Lovington Strawn Unit
API 30-015-32291
Section 35, T-15-S; R-35-E, Lea County, NM

Dear Mr. Griswold,

Energen Resources proposes installing five monitor wells around the subject well site to determine if chloride concentrations in a shallow Ogallala aquifer water well located on the north side of the well pad might have been impacted by operations on this lease. No salt or produced water spills are known to have occurred on this lease.

The approximate locations of the proposed monitor wells, in relation to the original drilling pad and mud pits, are shown on the attached diagram. A surveyed plat will be produced prior to drilling the requested monitor wells.

Based upon water logs of wells located in Sections 34 and 35 T-15-S and R-35-E on file with the New Mexico Office of the State Engineer (OSE) it is reasonable to estimate the depth to the water table beneath the well site at about 55 feet below ground level. The top of the Ogallala Formation underlies a 16 to 20 foot thick caliche horizon. The upper 30 to 35 feet of Ogallala Formation is locally within the vadose zone. Locally the Ogallala groundwater gradient is to the southeast. The Ogallala is a declining (mined) aquifer.

The first monitor well will be drilled to the northwest of the pad area, approximately 100'. Soil samples will be taken for analysis from depths of 5, 10, 15, 20, 25 and 30 feet. Thereafter samples will be taken for analysis at 10 foot intervals to an estimated total depth of approximately 75 feet. If acceptable to both parties' field test strips for chloride determinations may be utilized for sampling purposes during this process. One sample will be taken at the capillary fringe which is anticipated at approximately 55 feet. One sample will also be taken at total depth. Modification of the total depth depends upon the depth of the water level. This first test will penetrate and screen to 20 feet, 15 feet in and 5 feet out, beneath the water table. Each of the additional four monitor wells are anticipated to be constructed the same as the first. Soil samples nearest the water table will be submitted to Trace Analysis for appropriate TPH Modified 8015 GRO-DRO analyses plus chloride; water samples will be analyzed for TDS, BETEX and chlorides. Additional samples may be submitted to **Trace** for analysis as deemed necessary from field analysis results. Water samples will be collected upon completion and development of each monitor well.

The Ogallala Formation is known to potentially contain multiple stratigraphically and hydrogeologically separated water bearing zones beneath the uppermost unconfined aquifer being investigated. The depth of the existing water well indicates it is constrained to the unconfined aquifer. It is therefore important that these monitor wells do not penetrate beyond this upper (main) unconfined aquifer in order to prevent contamination of deeper zones should this local area be polluted. Should this be the case in any of the proposed monitor wells drilling will cease while an alternative plan agreeable to both parties is ascertained and implemented. The proposed testing will adequately evaluate the water in the unconfined aquifer as related to activities attributable to this lease. Additionally, no monitor well will be drilled into the old reserve pit area constructed to drill the Snyder B COM Fee well.

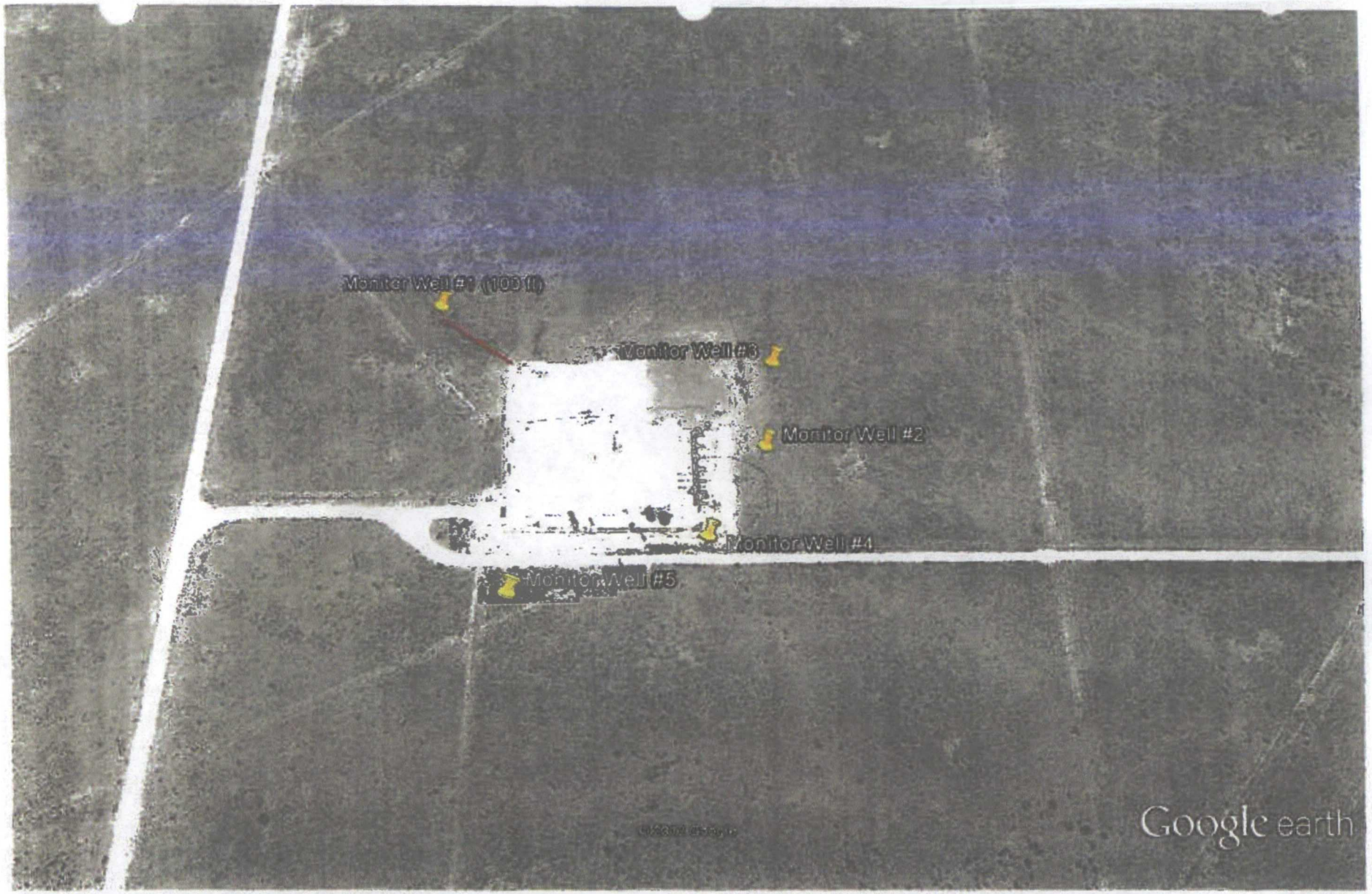
Upon completion, data will be presented to you and further action based on results will be determined.

Energen Resources respectfully requests approval of this overall plan. Please contact me should any questions arise.

Sincerely,

Andrew Cobb
Supervisor Safety& Environmental
Energen Resources Corporation

CC: Joe D. Niederhofer
Rusty Cook
Patrick McMahon
Tom Hnasko
Kay Havenor
Paul Callaway
John Cox



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