API Well Number: 43047555240000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☑

APPLICATION FOR PERMIT TO DRILL

1. WELL NAME and NUMBER
UIC Well #1

2. TYPE OF WORK
DRILL NEW WELL ◉ REENTER P&A WELL ○ DEEPEN WELL ○

3. FIELD OR WILDCAT
DEVILS PLAYGROUND

4. TYPE OF WELL
Water Injection Well Coalbed Methane Well: NO

5. UNIT or COMMUNITIZATION AGREEMENT NAME

6. NAME OF OPERATOR
AMERICAN GILSONITE CO

7. OPERATOR PHONE
435 790-1930

8. ADDRESS OF OPERATOR
29950 South Bonanza Highway, Bonanza, UT, 84008

9. OPERATOR E-MAIL
nlott@amgc.com

10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)
FEE

11. MINERAL OWNERSHIP
FEDERAL ○ INDIAN ○ STATE ○ FEE ◉

12. SURFACE OWNERSHIP
FEDERAL ○ INDIAN ○ STATE ○ FEE ◉

13. NAME OF SURFACE OWNER (if box 12 = 'fee')
American Gilsonite Company

14. SURFACE OWNER PHONE (if box 12 = 'fee')
435-790-1930

15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')
29950 South Bonanza Hwy, Bonanza, UT 84008

16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
nlott@amgc.com

17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')

18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS
YES ○ (Submit Commingling Application) NO ◉

19. SLANT
VERTICAL ◉ DIRECTIONAL ○ HORIZONTAL ○

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	475 FSL 1785 FEL	SWSE	3	9.0 S	24.0 E	S
Top of Uppermost Producing Zone	475 FSL 1785 FEL	SWSE	3	9.0 S	24.0 E	S
At Total Depth	475 FSL 1785 FEL	SWSE	3	9.0 S	24.0 E	S

21. COUNTY
UINTAH

22. DISTANCE TO NEAREST LEASE LINE (Feet)
475

23. NUMBER OF ACRES IN DRILLING UNIT
40

25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)
5400

26. PROPOSED DEPTH
MD: 1570 TVD: 1570

27. ELEVATION - GROUND LEVEL
5210

28. BOND NUMBER
LC SBPUT300608

29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE
49-222

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
COND	20	14	0 - 80	55.0	B Casing	8.8	Class A	78	1.18	15.6
I1	12.25	9.625	0 - 1450	49.0	B Casing	8.8	Class A	390	1.18	15.6
OPEN	8.75	0	1450 - 1570	0.0	No Pipe Used	8.8	No Used	0	0.0	0.0

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

- ☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☑ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ☐ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ☑ TOPOGRAPHICAL MAP

NAME David R. Friz | **TITLE** Senior Associate, Stantec Consultant | **PHONE** 801 261-0090

SIGNATURE | **DATE** 02/19/2016 | **EMAIL** david.friz@stantec.com

API NUMBER ASSIGNED
43047555240000

APPROVAL

Permit Manager

RECEIVED: April 19, 2016

API Well Number: 43047555240000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐
(highlight changes)

APPLICATION FOR PERMIT TO DRILL

5. MINERAL LEASE NO: Not applicable
6. SURFACE:

1A. TYPE OF WORK: DRILL ☑ REENTER ☐ DEEPEN ☐

7. IF INDIAN, ALLOTTEE OR TRIBE NAME:

B. TYPE OF WELL: OIL ☐ GAS ☐ OTHER Injection Wel SINGLE ZONE ☑ MULTIPLE ZONE ☐

8. UNIT or CA AGREEMENT NAME: Not applicable

2. NAME OF OPERATOR: American Gilsonite Company

9. WELL NAME and NUMBER: AGC UIC Well #1

3. ADDRESS OF OPERATOR: 29950 South Bonanza H CITY Bonanza STATE UT ZIP 84008

PHONE NUMBER: (435) 790-1930

10. FIELD AND POOL, OR WILDCAT: Not Applicable

4. LOCATION OF WELL (FOOTAGES)
AT SURFACE: 1785 FEL & 475 FSL
AT PROPOSED PRODUCING ZONE: 1785 FEL & 475 FSL

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 3 9S 24E S

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: Approximately 3 miles N of Bonanza, UT

12. COUNTY: Uintah

13. STATE: UTAH

15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET): 475 Feet

16. NUMBER OF ACRES IN LEASE: 40

17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40

18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET)

19. PROPOSED DEPTH: 1,570

20. BOND DESCRIPTION:

21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 5210 GR

22. APPROXIMATE DATE WORK WILL START: 3/1/2016

23. ESTIMATED DURATION: 1 month

24. **PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT			
20 inch	14-in	A53B	55 lbs	80	portland neat cement	63 cu ft	1.18cu ft/sk	15.6#/gal
12-1/4	9-5/8	A53B	49 lbs	1,450	portland neat cement	262 cu ft	1.18cu ft/sk	15.6#/gal
8	OH			1,570	Not applicable			

25. **ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
☑ EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER
☑ COMPLETE DRILLING PLAN
☐ FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) David R. Friz TITLE Senior Associate, Stantec Consulting Services

SIGNATURE David R. Friz 801-261-0090 DATE Feb 16, 2016

(This space for State use only)

API NUMBER ASSIGNED: _____ APPROVAL:

(11/2001) (See Instructions on Reverse Side)

American Gilsonite Company UIC Well #1

Well Owner

The proposed well is owned by American Gilsonite Company (AGC). Contact information for AGC is:

Nicholas Lott, Chief Operating Officer
American Gilsonite Company
29950 South Bonanza Highway
Bonanza, UT 84008
Phone: 435-790-1930
Email: nlott@amgc.com

Location of Well

The location of the proposed AGC Underground Injection Control (UIC) Well #1 is SW/4, SE/4, Section 3, T 9 S, R 24 E, SLB&M. The well site is 475 feet from the south line and 1,785 feet from the east line of the section. Figure 1 is a surveyed plat showing the well location.

Water Rights Approval

AGC anticipates using water from its dewatering processes at the nearby Gilsonite mine. AGC's approved water right number is 49-222.

Estimated Geologic Markers

Figure 2 is a geologic structure map of the area based on the Geologic Map of the Bonanza Quadrangle (Cashion, W.B., 1986). Structure contours drawn on top of the Mahogany Oil-Shale bed are shown. Figure 3 shows the location of cross-section lines A-A' and B-B'. Geologic cross-sections A-A' and B-B' are illustrated on Figures 4 and 5, respectively.

The proposed injection and confining intervals for the Area of Review (AOR) are listed in Table 1 below. The AOR, as defined under the UIC Permit application, is a ¼ mile radius around the AGC property on which the proposed injection well is located. The depths of the formations are based on information gained from the drilling of a test well at the site.

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Table 1 – Estimated Tops of Geologic Markers

Formation	Depth (feet below land surface)
Uinta Formation	Surface to 1,410
Top of Green River	1,410
Top of Upper Confining	1,410
Base of Upper Confining	1,446
Top of Lower Birds Nest	1,446
Base of Lower Birds Nest	1,569
Top of Lower Confining	1,569
Base of Lower Confining	1,729
Approximate TD	1,600

Estimated Top and Bottom of Anticipated Water, Oil, Gas, other Mineral Zones and Plans for Protection

A confined groundwater aquifer is located at approximately 1,350-1,450 feet. This zone will be cased off and sealed before drilling into the Birds Nest Zone. No oil, gas, or other mineral zones are anticipated to be encountered with the proposed drilling depth.

Proposed Drilling Program

1. Drill a 20-inch Conductor Hole to +/- 80 feet below ground surface with total depth (TD) in competent shale.

2. Run 80 feet of 14-inch outside diameter (OD), 0.250-inch wall conductor pipe and cement in place with redi-mix cement.

3. Drill a 12-1/4-inch hole using a polycrystalline diamond compact (PDC) bit and Mud Motor to approximately 1,350 feet. Deviation checks will be run at sufficiently frequent intervals to assure that vertical avenues for fluid migration are not created during drilling.

4. Pump viscous sweeps to ensure hole is clean. Continue drilling to +/- 1450 feet at a reduced rate of penetration (ROP). Monitor fluid returns closely and catch cuttings samples to determine the Green River/Birds Nest transition. TD the well at the top of the Birds Nest zone.

5. Pull out of hole (POOH) and run geophysical logs: gamma ray, density, neutron, spontaneous potential, and resistivity logs, 1450 to surface.

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6. Make up 9 5/8" Guide Shoe, two joints of casing and float collar with 4 1/2" opening. Baker Lock shoe joints and FE. Place centralizers on 1st, 3rd and every other collar for a total of 10 centralizers. Tag bottom and lay down last joint if necessary. Replace with 10' pup joint.

7. Rig up cementing contractor and circulate hole prior to start of cement job.

8. Cement 9-5/8" casing back to surface per the cement program. Reciprocate casing while cementing. It may be necessary to maintain casing pressure, 100-200 psi, until the cement slurry reaches its initial set. Install casing flange.

9. Wait for cure of concrete a minimum of 72 hrs. Run Cement Bond Log and gamma ray log to surface.

10. Move in and rig up drilling rig. PU 8 3/4" bit and run in hole and tag bottom Drill out shoe joint with 8-3/4-inch bit and drill approximately 120 feet of open hole to 1,570 feet. Loss of circulation is expected in the Birds Nest. If necessary aerate the drilling fluid. Clean the hole of drill cuttings and POOH laying down the drill string. Run geophysical logs: gamma ray, density, neutron, spontaneous potential, and resistivity logs, 1,570 to 1,450.

11. Install casing flange and demobilize drilling rig and associated equipment.

Note: All depths are estimates based on nearby logs. Some variance in depths is likely to occur.

Figure 6 shows proposed well construction details.

Plan for Pressure Control

The proposed total depth of the well, and the formations anticipated to be encountered are such that AGC believes pressure control will not be needed. In addition, the proposed depth of the injection well is a depth to which experienced water well drillers often complete wells without the use of pressure control. Based on this premise we anticipate water well drillers would be capable of drilling this well.

Description of Mud System

Drilling mud will be water-based, low solids, with mud weight of 8.4-8.7 pounds per gallon. Bentonite and/or liquid polymer such as EZ Mud may be added to improve control of the borehole.

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Plans for Testing, Logging, and Coring

Drill cuttings will be collected at approximate 10-foot intervals for description. Samples will be collected by the drilling crews for logging by the field geologist.

Prior to placement of the casing, the following logs will be conducted: resistivity, spontaneous potential, gamma ray, neutron, density, and caliper logs. After the casing is set and cemented, the following logs will be run: cement bond log and temperature log. If appropriate a density log may be run.

Following completion of well construction, injection will begin. It is anticipated that commissioning/testing of the injection well will require several weeks or months to reach a dynamic equilibrium before sustainable capacity of the injection well is understood.

Expected Bottomhole Pressure

A test hole drilled by AGC in May 2015 near the proposed location of the injection well, demonstrated that the bottom hole pressure of the Birds Nest Zone is anticipated to be negative, or essentially a vacuum.

Current Surface Use

The surface land is owned by AGC. The surface land is currently undeveloped.

Proposed Surface Disturbance

AGC has constructed a drill pad and plans to use an existing road for access to the well site. Location of the drill pad is shown on Figure 7. The pipeline that will convey the water for injection, and the electrical power line will be constructed along existing roads and right of ways. Figure 8 illustrates the locations of the pipeline and electrical power line.

Existing Wells

Existing wells within approximately one mile of the proposed drill site are shown on Figure 9. There are no water wells within one mile of the proposed drill site, although an existing, perfected underground water right point of diversion is located approximately 970 feet away from AGC UIC Well #1. AGC conducted a diligent search for this well in May 2015, but did not locate anything in the field at the published location that would

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indicate the presence of a well or pump station. The proposed depth of the well (approximately 1,600 feet below ground surface) is above the depths of existing producing oil/gas wells in the vicinity, and therefore will not impact producing oil/gas wells.

Production Facilities and Pipelines

The pipeline to convey water for injection from the mine dewatering facilities to the injection well will be constructed of 6-inch diameter HDPE pipe. The pipeline will be within the existing AGC right-of-way roads, on BLM right of ways, and SITLA right of ways (Figure 8). A pump house will be located near the well, and will be equipped with a 200-horsepower pump, motor, flowmeter, transformer, starting gear, pressure transmitter, automatic drain valve, temperature sensor, alarms, and remote telemetry system.

Waste Management Plan

A reserve pit will be constructed for water and drilling fluids. The pit will be approximately 10 feet deep with at least half the depth below the ground surface. One half of the reserve pit will used as a fresh water storage area. The other half will be used to store non-flammable items such as cuttings and drilling fluids.

Prior to the onset of drilling, a "stock tight" fence shall be installed on three sides of the reserve pit. This fence will be either (1) woven wire at least 28 inches high and within 4 inches of ground surface with two strands of barbed wire above the woven wire with 10-inch spacing, or, (2) at least five strands of barbed wire spaced, starting from the ground, at approximately 6-, 8-, 10-, and 12-inch intervals. At the completion of drilling operations, the fourth side of the reserve pit will be fenced and allowed to dry completely before the pit is backfilled.

Site Clean-up - Immediately after the rig is moved out, the area around the well site will be cleaned and all refuse properly disposed.

A portable chemical toilet will be provided for human waste. Garbage and related refuse will be transported and disposed of in waste containers at the AGC headquarters in Bonanza, Utah. AGC contracts with a waste disposal company who provides waste containers and transports full waste containers to a local municipal landfill.

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Affected Floodplains/Wetlands

The proposed water injection pipeline and electrical power line will cross an ephemeral drainage tributary to Coyote Wash (Figure 8). AGC has received communications from the US Army Corps of Engineers (Corps). The drainage does not appear to have an ordinary high water mark (OHWM) based on the presence of upland vegetation, no low flow channels or change in sediment texture, and no bed and bank. The corps does not require notification (submittal of a Nationwide Permit 12) for utility crossings of ephemeral drainages. Therefore no permit is required.

Flora/Fauna

AGC has conducted two biological resource studies in preparation for drilling the UIC Well #1. The vegetation within the survey area consists of black sagebrush shrubland at the higher elevations and greasewood at the lower elevations.

The areas mapped as black sagebrush shrubland were dominated by black sagebrush (Artemisia nova). Other common plants found in this community include: shadscale saltbush (Atriplex confertifolia), rubber rabbitbrush (Ericameria nauseosa), broom snakeweed (Gutierrezia sarothrae), prickly pear cactus (Opuntia polyacantha), and cheatgrass (Bromus tectorum). Greasewood (Sarcobatus vermiculatus) and Great Basin sagebrush (Artemisia tridentata ssp. tridentata) were also found occasionally throughout the black sagebrush plant community.

Dominant plant species in the greasewood flat community are greasewood, and Great Basin sagebrush. A tall row of saltcedar (Tamarix chinensis), a State of Utah–designated noxious weed, grows right along the bank of Coyote Wash in the western portion of the survey area. The state-designated noxious weed species perennial pepperweed (Lepidium latifolium) is also common in this plant community.

Wildlife observed within 0.5 mile of the project area during the two site visits included the bird species brewers sparrow (Spizella breweri), Say's phoebe (Sayornis saya), lark sparrow (Chondestes grammacus), golden eagle (Aquila chrysaetos), rock wren (Salpinctes obsoletus), sage thrasher (Oreoscoptes montanus), red-winged blackbird (Agelaius phoeniceus), cliff swallow (Petrochelidon pyrrhonota), killdeer (Charadrius vociferous), loggerhead shrike (Lanius ludovicianus), northern harrier (Cricus cyaneus), red-tailed hawk (Buteo jamaicensis), black-billed magpie (Pica hudsonia), spotted towhee (Pipilo maculatus), great horned owl (Bubo virginianus), European starling (Sturnus vulgaris), white –crowned sparrow (Zonotrichila leucophrys), dark-eyed junco (Junco hyemalis), sage sparrow (Aremisiospiza nevadensis), northern flicker (Colaptes auratus), common raven (Corvus corax), and horned lark (Eremophila alpestris). Other wildlife observed included: sagebrush lizard (Sceloporus graciosus), desert cottontail (Sylvilagus audubonii), and pronghorn (Antilocapra americana). Evidence of coyote (Canis latrans), woodrat (Neotoma cinerea), and small rodents were also observed.

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AGC has discussed the results of the biological surveys with BLM and EPA personnel, and will coordinate drilling activities with these agencies.

Paleontological Potential

The area of the drill pad is within siltstones of the Uinta Formation. Utah Geological Survey information indicates there are potential paleontological resources in the region of the project site. Likely resources include turtle shells, although more significant resources may be found. The drill pad is already constructed and no paleontological resources were identified during construction of the well pad.

Surface Restoration

AGC anticipates the injection well and related facilities will be used for the foreseeable future. Therefore, surface restoration will be limited after well completion.

The platform and pit areas no longer required for the injection well will be backfilled, re-contoured, existing top soil will be replaced and the area will be seeded.

If the well is abandoned, the entire disturbed area (including roads) will be restored by: (1) backfilling; (2) re-contouring; (3) restoring top soil; (4) seeding. Restoration of the location and access road will begin within 90 days after completion of the well.

The BLM representative will be notified prior to starting the rehabilitation operations. The seed mixture to be used will be discussed with the BLM at the time of abandonment. Seed will be planted after September 1 and prior to ground frost; or seed will be planted after the frost has left and before May 15. Seed will be drilled into the soil at a depth of approximately 4 inches; seed drilling rows will follow elevation contours. Slopes too steep or rocky for machinery will be broadcast and the seed hand raked into the soil. When broadcasting the seed, the rate per acre will be doubled.

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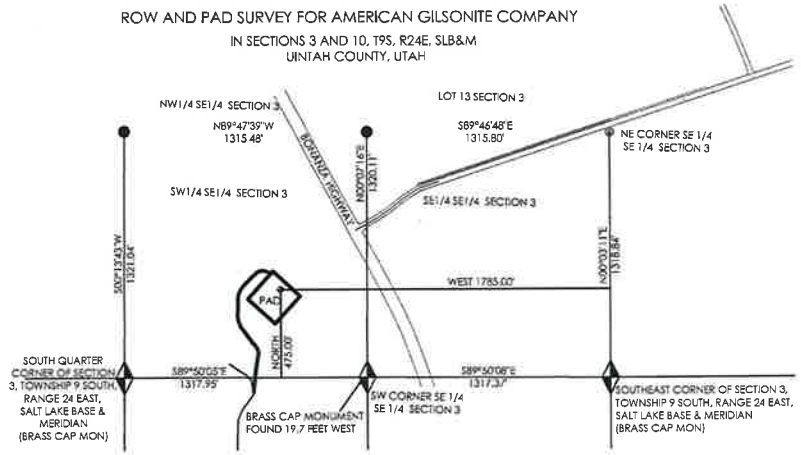
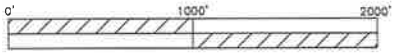
ROW AND PAD SURVEY FOR AMERICAN GILSONITE COMPANY

IN SECTIONS 3 AND 10, T9S, R24E, SLB&M
UINTAH COUNTY, UTAH



LEGEND:

- SECTION CORNERS FOUND
- PROPERTY CORNERS SET 5/8" REBAR WITH PLASTIC CAP
- PIPE ROW
- PRIVATE ROAD
- PRIVATE 2 TRACK
- PROPOSED ROAD AND PAD



SCALE 1" = 1000'

SURVEYOR'S CERTIFICATE

I, GEGORY A. CATES, A PROFESSIONAL LAND SURVEYOR HOLDING LICENSE NUMBER 161226 IN ACCORDANCE WITH THE LAWS OF THE STATE OF UTAH, HEREBY CERTIFY THAT THIS EXHIBIT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS A TRUE AND CORRECT REPRESENTATION TO THE BEST F MY KNOWLEDGE AND BELIEF.

NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO SHOW THE LOCATION OF THE AMERICAN GILSONITE COMPANY'S UIC WELL #1 IN RELATIONSHIP TO THE SECTION CORNERS ADJACENT TO THE SITE.

THE INFORMATION SHOWN HEREON WAS NOT FIELD VERIFIED.

THIS IS NOT A BOUNDARY SURVEY PLAT.

GREGORY A. CATES
P.L.S. No. 161226

FEB. 2, 2016
Date

LICENSED PROFESSIONAL LAND SURVEYOR
161226
GREGORY A. CATES
2-2-16
STATE OF UTAH

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2016/02/02 3:18 PM By: Cates, Greg

ORIGINAL SHEET - ANSI A

January 29, 2016
205303062

Stantec

3995 South 700 East, Suite 300
Salt Lake City UT
www.stantec.com

Client/Project

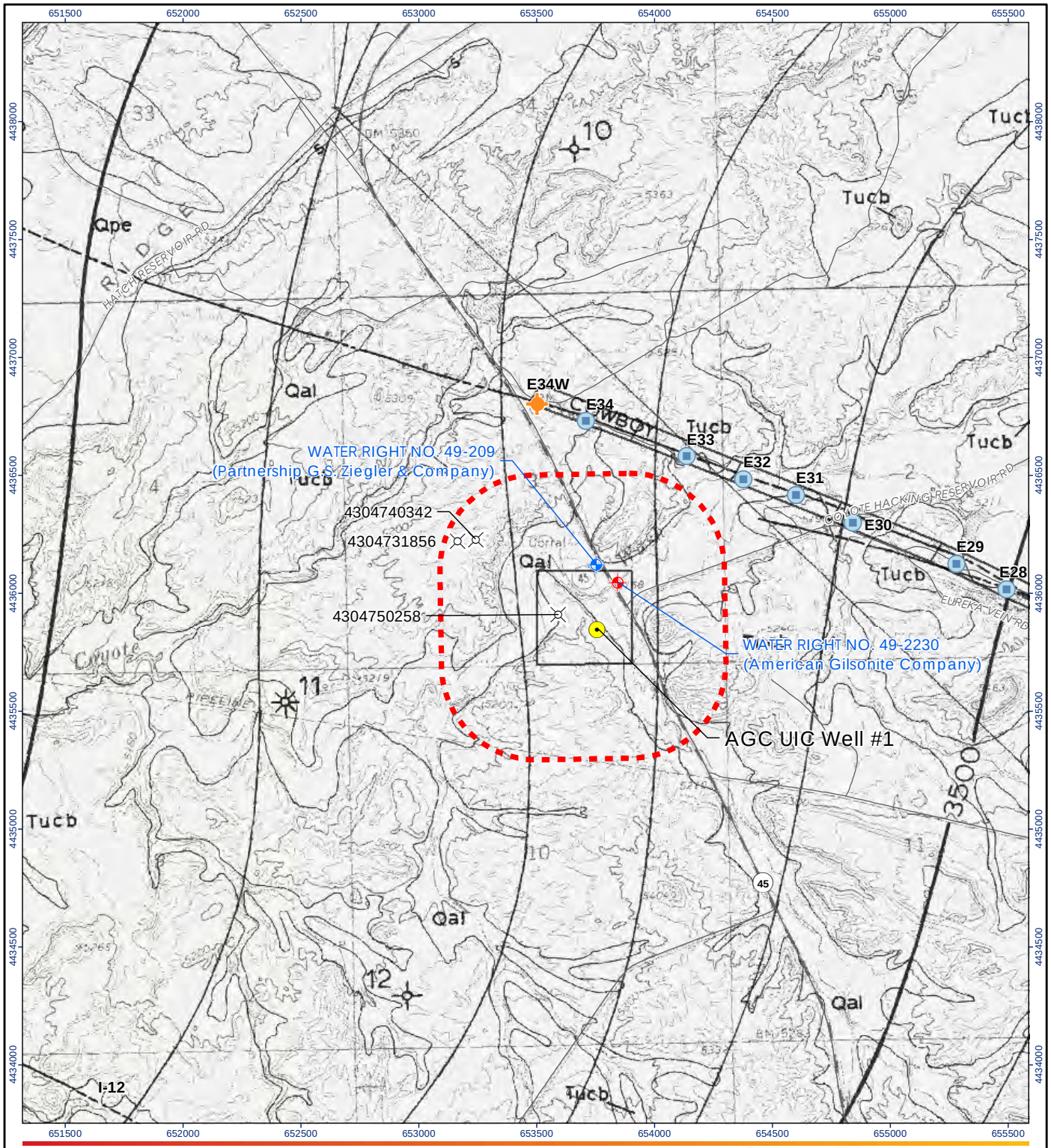
AMERICAN GILSONITE COMPANY
SECTIONS 3 & 10, T9S, R24E, SLB&M
UINTAH COUNTY, UTAH

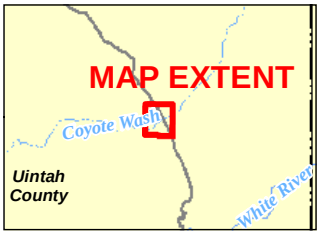
Figure No.

1.0

Title

UIC WELL #1
LOCATION MAP





Legend

- Proposed AGC UIC Well
- AGC Dewatering Well
- Active AGC Mine Shaft
- Approved, Underground Point of Diversion
- Perfected, Underground Point of Diversion
- Location Abandoned (Oil or Gas Well)
- Area of Review
- American Gilsonite Property
- Structure Contours - Drawn on Top of Mahogany Oil-Shale Bed

N

0 2,000 Feet

1:24,000 (at original document size of 8.5x11)

Stantec

AMERICAN GILSONITE COMPANY

Project Location
Uintah County, Utah

205303062
Prepared by DLB on 2016-01-27
Technical Review by DRF on 2016-01-28
Independent Review by MA on 2016-01-28

Client/Project
American Gilsonite Corporation
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

Figure No.
2

Title
American Gilsonite Corporation
UIC Permit Application Well #1
Geologic Structure Map of the Area

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Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Orthoimagery © Google Earth 2015.
3. Cashion, W. B., 1986; Geologic Map of the Bonanza Quadrangle, Uintah County, Utah; USGS Miscellaneous Field Studies Map MF-1865 United Sates Geological Survey, Reston, Virginia

V:\2053\Active\205303062\GIS\mxd\APD_App_Well1\Bonanza_geologic_7_5.mxd Revised: 2016-01-27 By: dbeck

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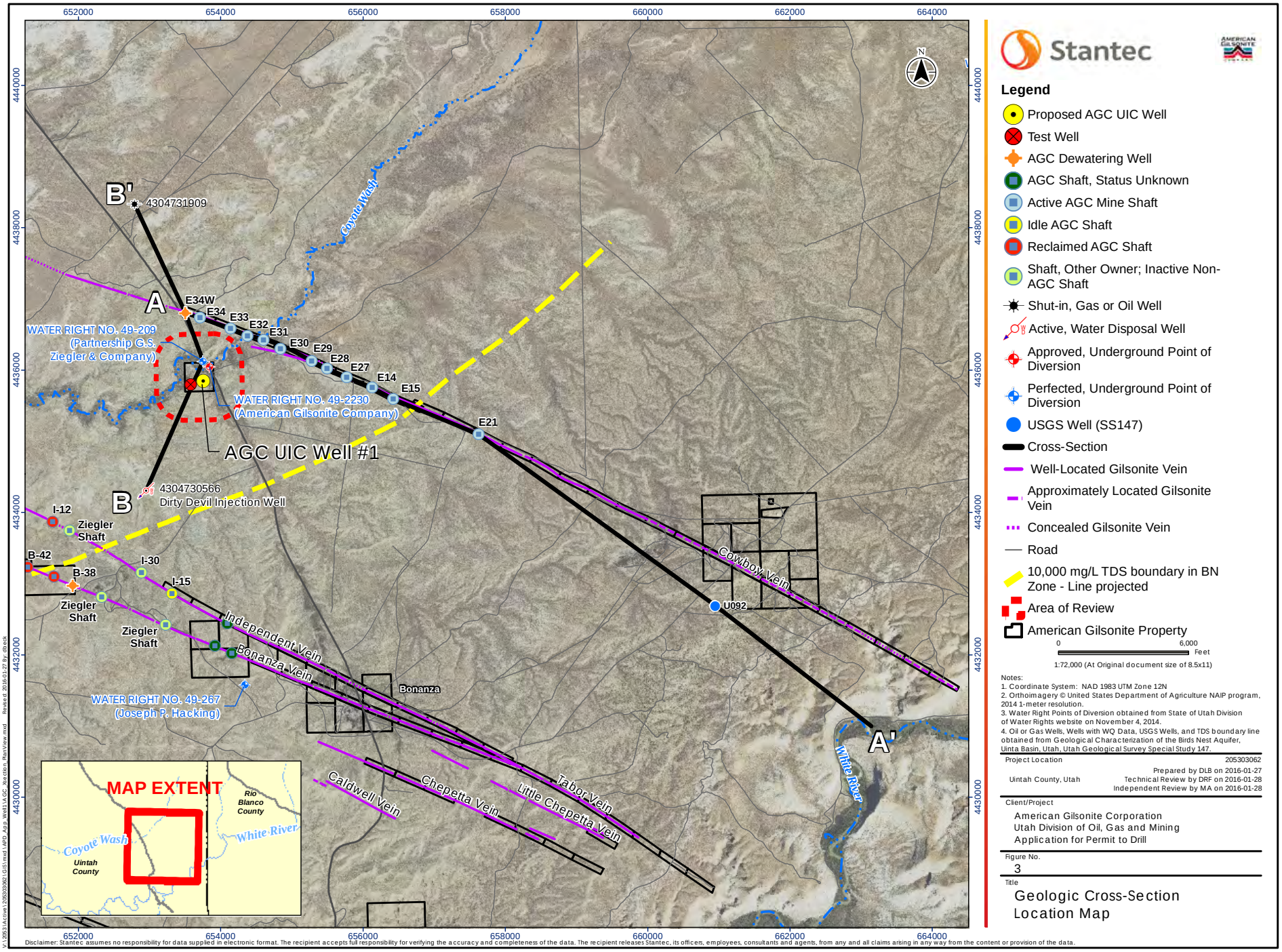
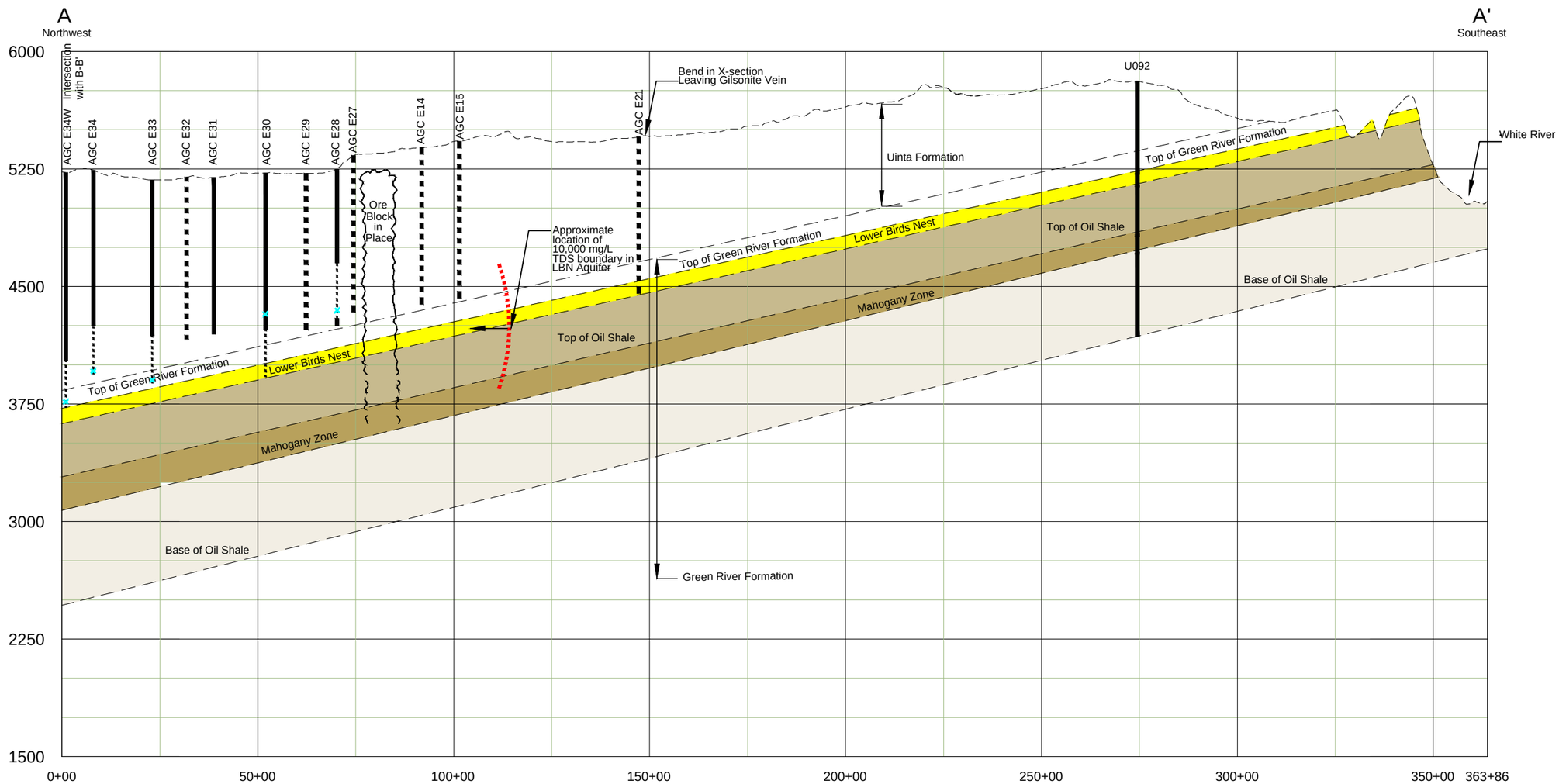
API Well Number: 43047555240000



RECEIVED: February 19, 2016



Horizontal Scale: 1" = 3,000'
Vertical Scale: 1" = 750'
Vertical Exaggeration: 4:1

Well or Shaft (Dashed where Depth Inferred)

Perforated Interval
X Denotes Pump Depth

Stantec

Stantec Consulting Services Inc.
3995 South 700 East, Suite 300
Salt Lake City UT
Tel. 801.261.0090
www.stantec.com

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Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

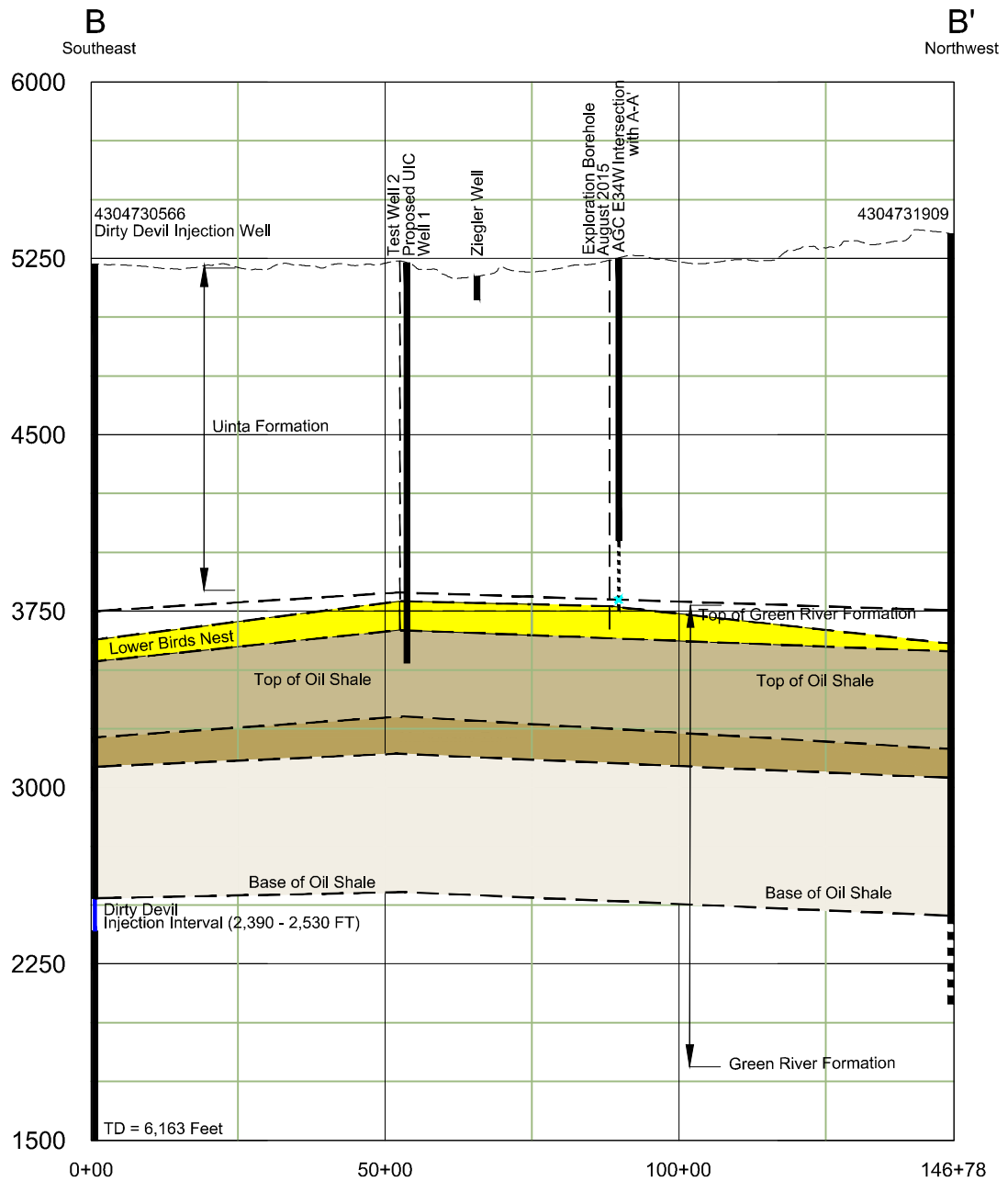
Client/Project
American Gilsonite Company

Utah Division of Oil, Gas and Mining
Application for Permit to Drill
Bonanza, Utah

Title
Figure 4
Cross-Section A-A'

Project No. 205303062
Scale
Drawing No.
Sheet
of
Revision 0

RECEIVED: February 19, 2016



Horizontal Scale: 1" = 3,000'
Vertical Scale: 1" = 750'
Vertical Exaggeration: 4:1

Well or Shaft (Dashed where Depth Inferred)

Perforated Interval
X Denotes Pump Depth

ORIGINAL SHEET - ANSI A

2015
205303062

Stantec

3995 South 700 East, Suite 300
Salt Lake City UT
Tel.
www.stantec.com

Client/Project
American Gilsonite Company
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

Figure No.
5

Title
Cross-Section B-B'

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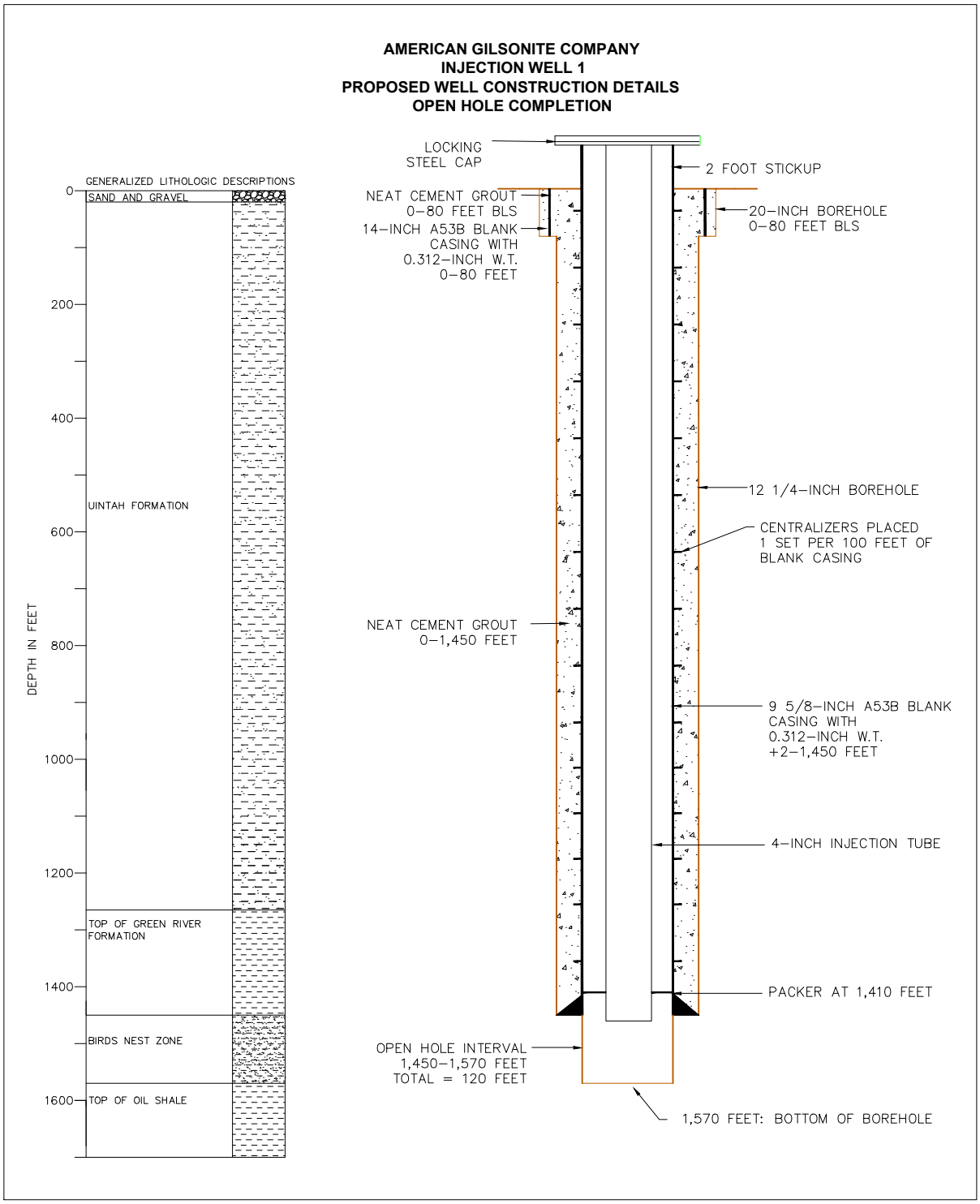


Stantec

3995 South 700 East, Suite 300
Salt Lake City UT

Client/Project

American Gilsonite Company
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

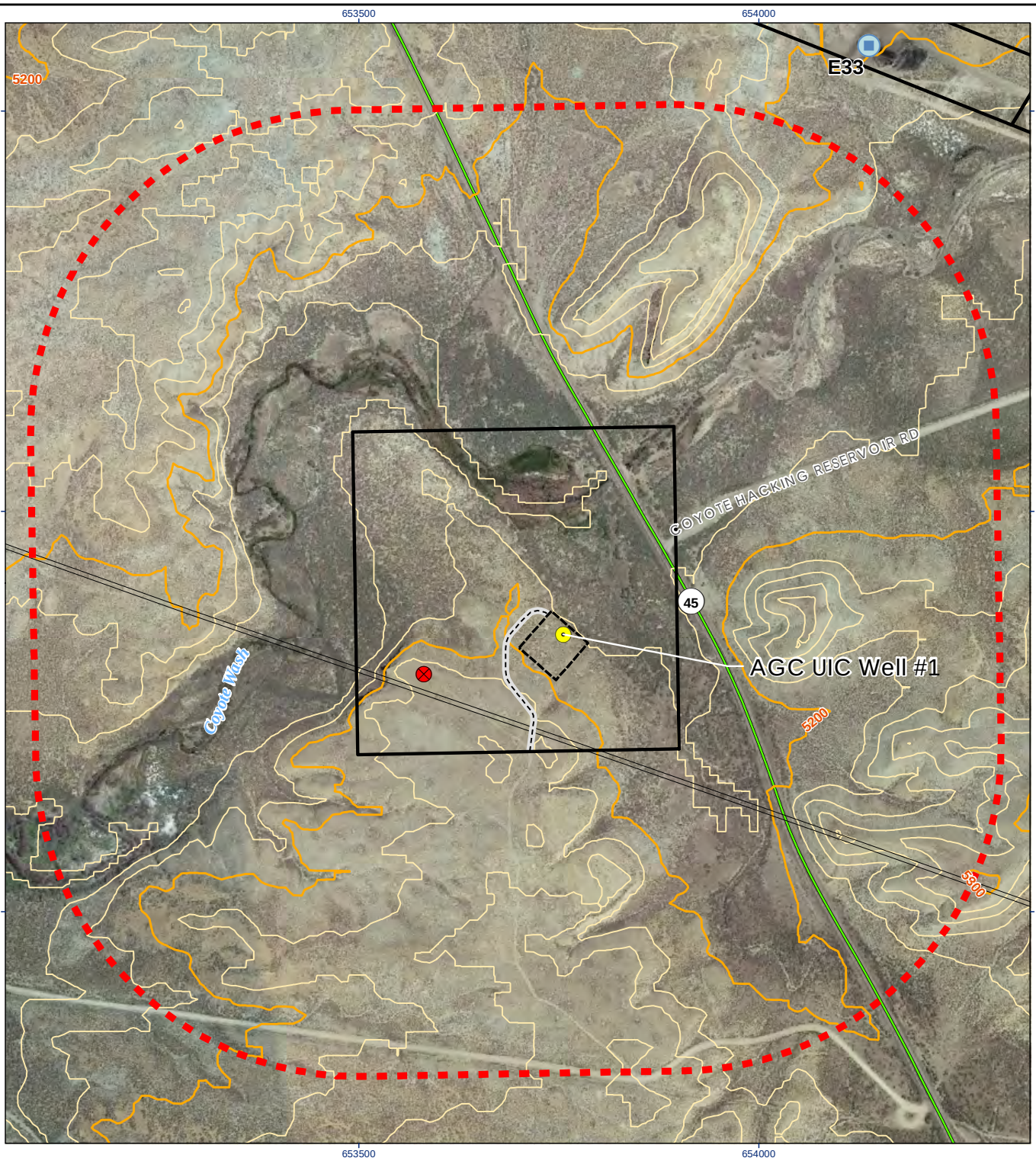
Figure No.

6

Title

Well Construction Details
Proposed Injection Well #1

RECEIVED: February 19, 2016



Legend

- Proposed AGC UIC Well
- Test Well
- Active AGC Mine Shaft
- Ex. Power Line
- Major Contour - 5 FT
- Minor Contour - 1 FT
- Proposed Access Road
- State Road (SR)
- Area of Review
- Proposed Drill Pad
- American Gilsonite Property

N

0 600 Feet

1:7,200 (at original document size of 8.5x11)

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Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Orthoimagery © Google Earth 2015

Stantec

AMERICAN GILSONITE COMPANY

Project Location
Uintah County, Utah

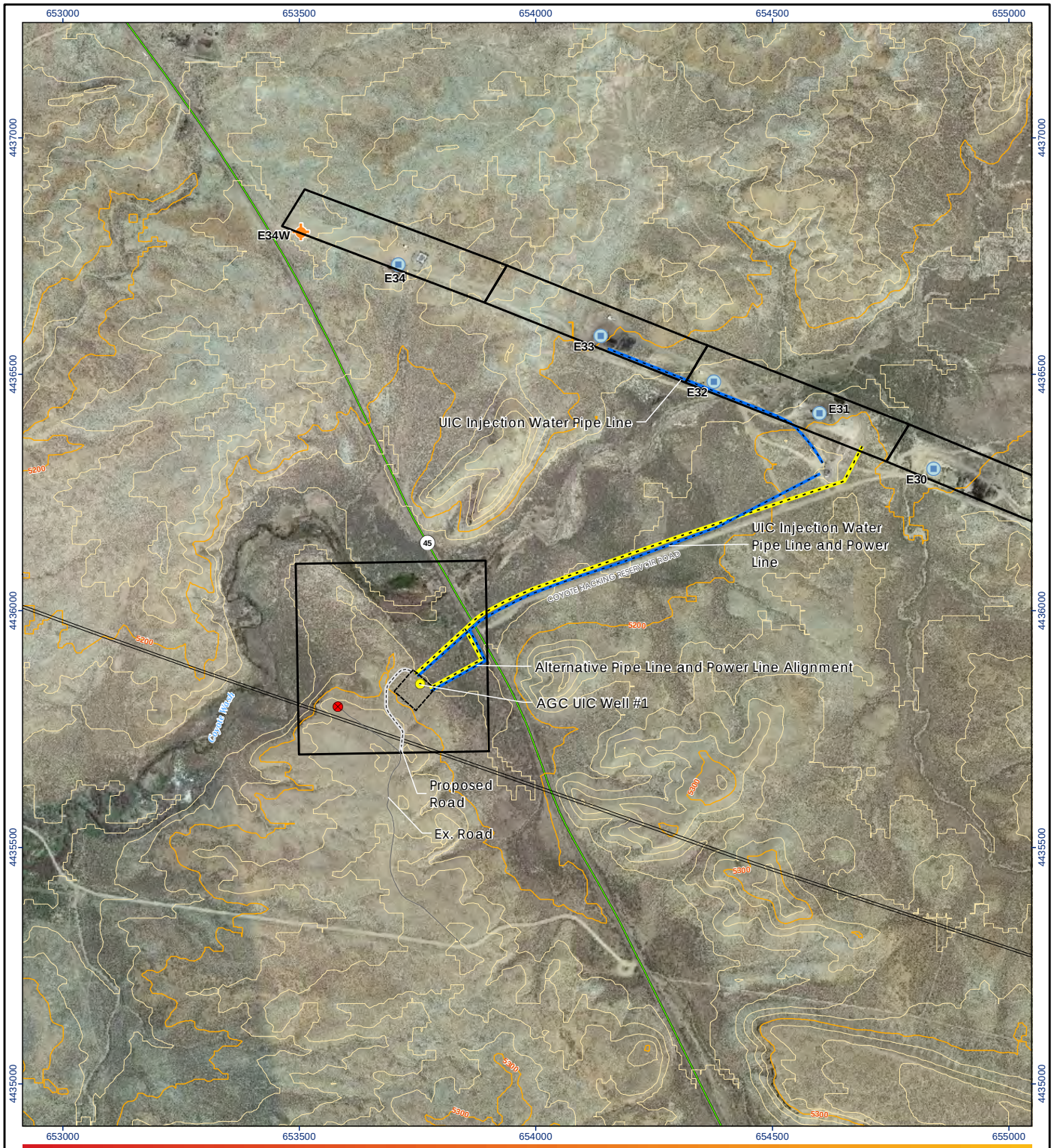
205303062
Prepared by DLB on 2015-03-26
Technical Review by DRF on 2015-03-29
Independent Review by MA on 2015-03-31

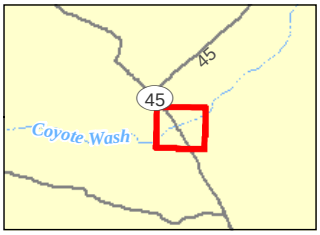
Client/Project
American Gilsonite Corporation
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

Figure No.
7

Title
American Gilsonite Corporation
Proposed Injection Site 1

V:\2053\Active\205303062\GIS\mxd\APD_App_Well1\AGC_Proposed_Road_DrillPad.mxd Revised: 2016-01-27 By: dbeck





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Legend

- Proposed AGC UIC Well
- Test Well
- AGC Dewatering Well
- Active AGC Mine Shaft
- Ex. Power Line
- Major Contour - 5 FT
- Minor Contour - 1 FT
- Proposed Access Road
- Existing Road
- Proposed Pipe Line
- Proposed Power Line
- State Road (SR)
- Proposed Drill Pad
- American Gilsonite Property

Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Orthoimagery © Google Earth 2015

N

0 1,000 Feet

1:12,000 (at original document size of 8.5x11)

Stantec

AMERICAN GILSONITE COMPANY

Project Location
Uintah County, Utah

205303062
Prepared by DLB on 2016-01-27
Technical Review by DRF on 2016-01-28
Independent Review by MA on 2016-01-28

Client/Project
American Gilsonite Corporation
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

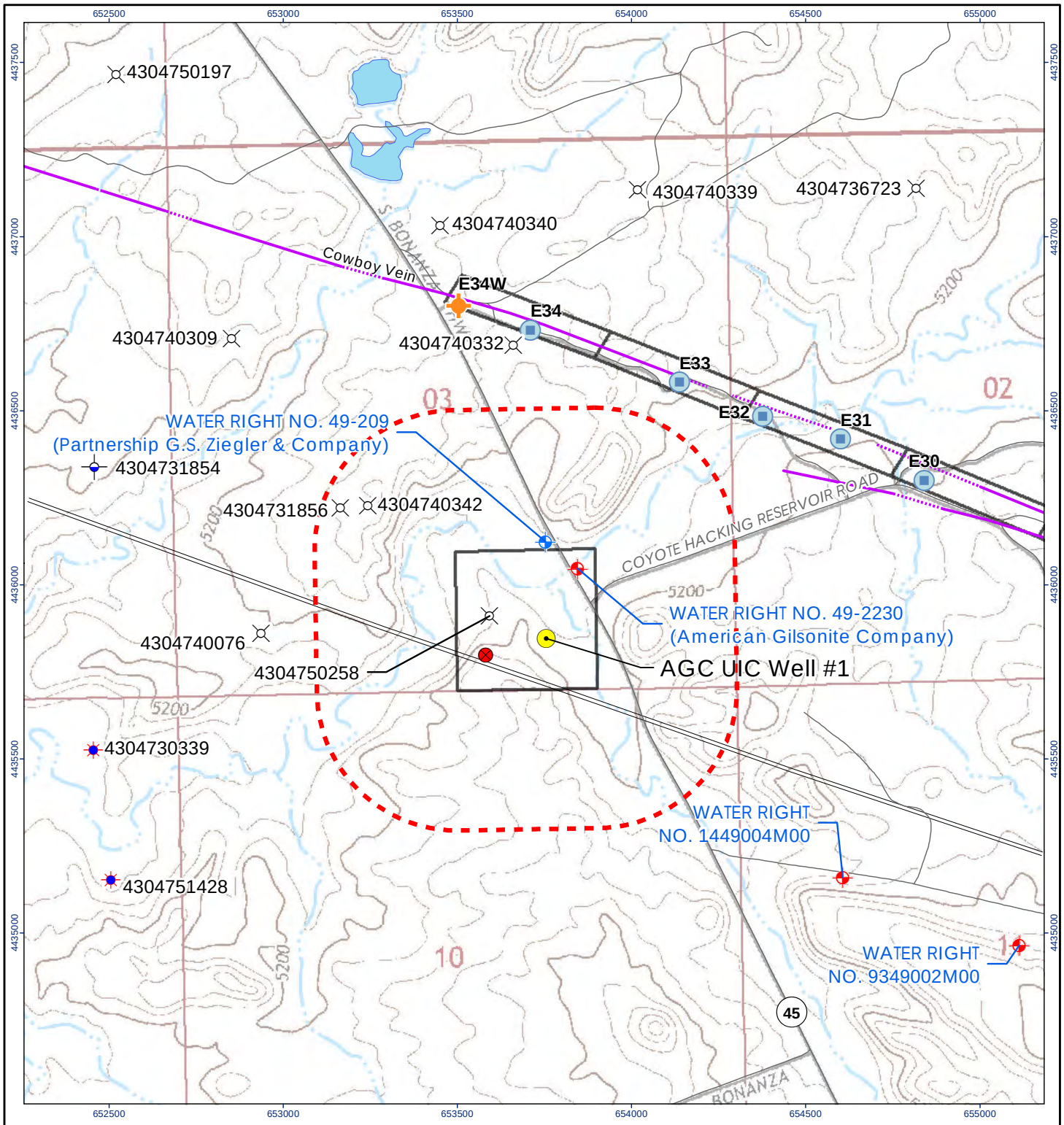
Figure No.
8

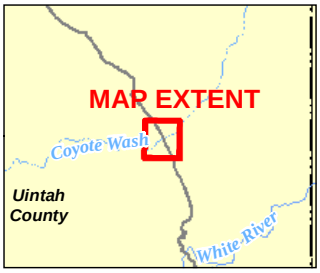
Title
American Gilsonite Corporation
Surface Impacts

V:\2053\Active\205303062\GIS\mxd\APD_App_Well1\AGC_Surface_Impacts.mxd Revised: 2016-01-27 By: dbeck

RECEIVED: February 19, 2016

API Well Number: 43047555240000





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Legend

- Test Well
- Proposed AGC UIC Well
- AGC Dewatering Well
- Active AGC Mine Shaft
- Approved, Underground Point of Diversion
- Perfected, Underground Point of Diversion
- Producing, Gas or Oil Well
- Shut-in, Gas or Oil Well
- Location Abandoned (Oil or Gas Well)
- Plugged and Abandoned Gas or Oil Well
- Well-Located Gilsonite Vein
- Concealed Gilsonite Vein
- Area of Review
- American Gilsonite Property

Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Water Right Points of Diversion obtained from State of Utah Division of Water Rights.
3. Oil and Gas Wells obtained from the Utah Department of Natural Resources, Division of Oil, Gas, and Mining.
4. Topographic Map obtained from United States Geological Survey.

N

0 1,500 Feet

1:15,840 (at original document size of 8.5x11)

Stantec

AMERICAN GILSONITE COMPANY

Project Location
Uintah County, Utah

205303062
Prepared by DLB on 2016-01-28
Technical Review by DRF on 2016-01-29
Independent Review by MA on 2016-01-29

Client/Project
American Gilsonite Corporation
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

Figure No.
9

Title
American Gilsonite Corporation
UIC Permit Application Well #1
Nearby PODs and Oil and Gas Wells

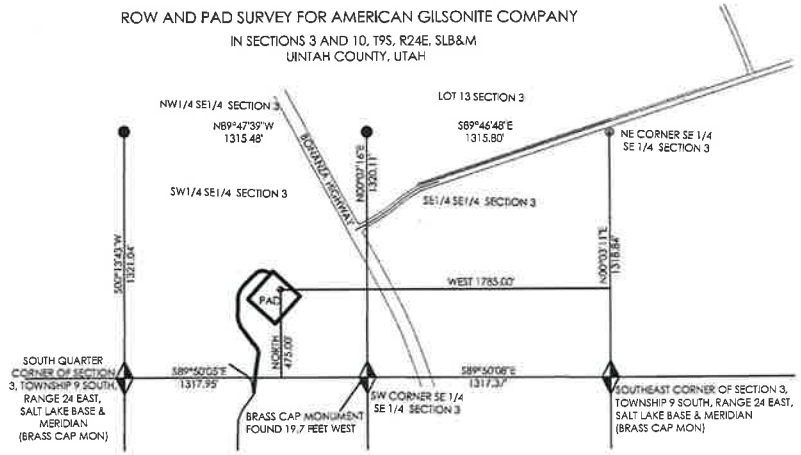
V:\2053\Active\205303062\GIS\mxd\APD_App_Well#1\AGC_Permit_Area_UIC_Sites.mxd Revised: 2016-01-29 By: dbeck

RECEIVED: February 19, 2016

API Well Number: 43047555240000

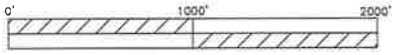
ROW AND PAD SURVEY FOR AMERICAN GILSONITE COMPANY

IN SECTIONS 3 AND 10, T9S, R24E, SLB&M
UINTAH COUNTY, UTAH



LEGEND:

- SECTION CORNERS FOUND
- PROPERTY CORNERS SET 5/8" REBAR WITH PLASTIC CAP
- PIPE ROW
- PRIVATE ROAD
- PRIVATE 2 TRACK
- PROPOSED ROAD AND PAD



SCALE 1" = 1000'

NARRATIVE

THE PURPOSE OF THIS SURVEY WAS TO SHOW THE LOCATION OF THE AMERICAN GILSONITE COMPANY'S UIC WELL #1 IN RELATIONSHIP TO THE SECTION CORNERS ADJACENT TO THE SITE.

THE INFORMATION SHOWN HEREON WAS NOT FIELD VERIFIED.

THIS IS NOT A BOUNDARY SURVEY PLAT.

SURVEYOR'S CERTIFICATE

I, GEGORY A. CATES, A PROFESSIONAL LAND SURVEYOR HOLDING LICENSE NUMBER 161226 IN ACCORDANCE WITH THE LAWS OF THE STATE OF UTAH, HEREBY CERTIFY THAT THIS EXHIBIT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS A TRUE AND CORRECT REPRESENTATION TO THE BEST F MY KNOWLEDGE AND BELIEF.

LICENSED PROFESSIONAL LAND SURVEYOR
161226
GREGORY A. CATES
2-2-16
STATE OF UTAH

GREGORY A. CATES
P.L.S. No. 161226

FEB. 2, 2016
Date

V:\205303062\Active\205303062\drawing\survey\plat\ACC Certified Exhibit 1-29-16.dwg
2016/02/02 3:18 PM By: Cates, Greg

ORIGINAL SHEET - ANSI A

January 29, 2016
205303062

Stantec

3995 South 700 East, Suite 300
Salt Lake City UT
www.stantec.com

Client/Project

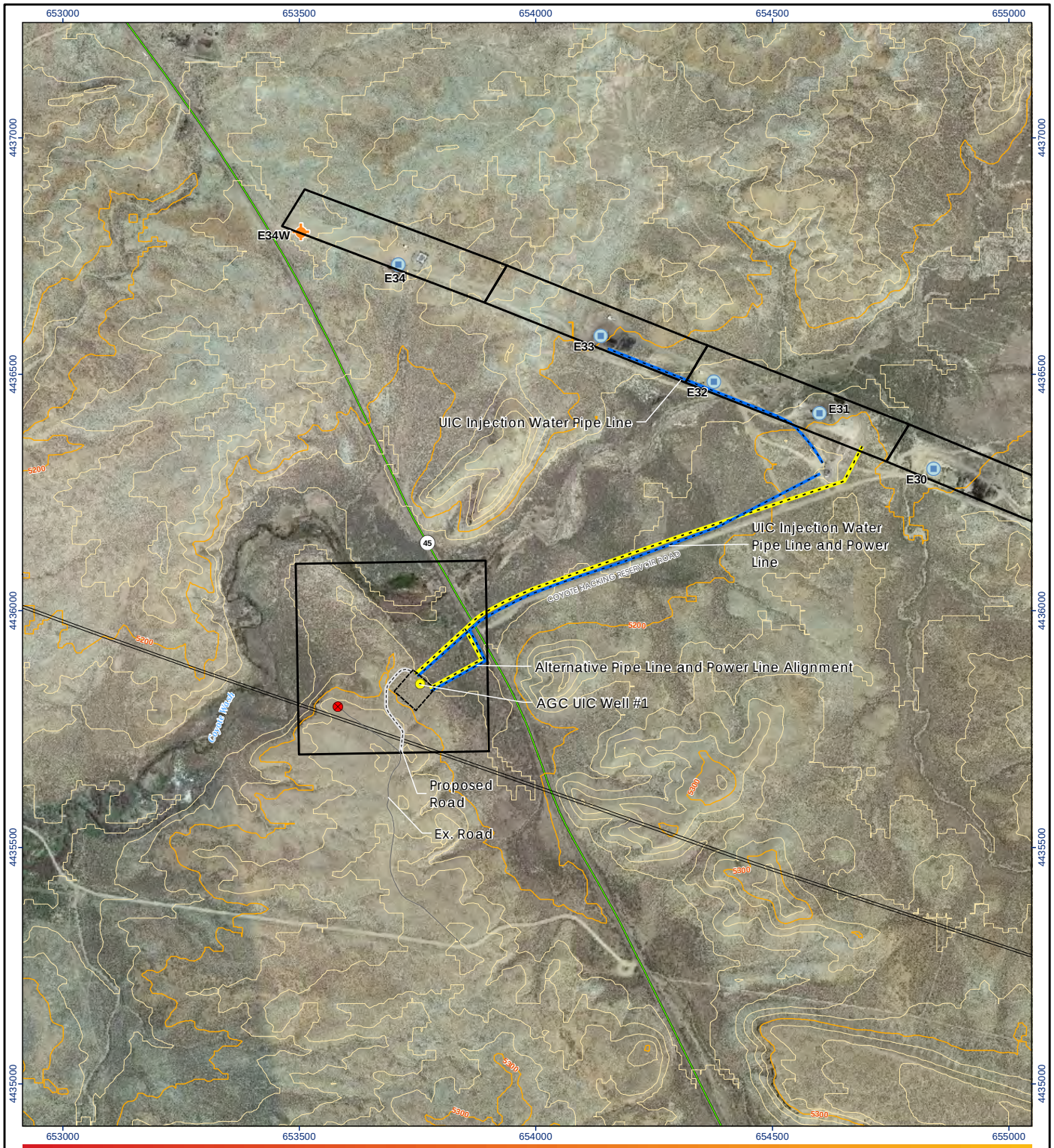
AMERICAN GILSONITE COMPANY
SECTIONS 3 & 10, T9S, R24E, SLB&M
UINTAH COUNTY, UTAH

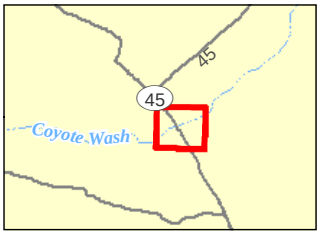
Figure No.

1.0

Title

UIC WELL #1
LOCATION MAP





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Legend

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- Test Well
- AGC Dewatering Well
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- Ex. Power Line
- Major Contour - 5 FT
- Minor Contour - 1 FT
- Proposed Access Road
- Existing Road
- Proposed Pipe Line
- Proposed Power Line
- State Road (SR)
- Proposed Drill Pad
- American Gilsonite Property

Notes
1. Coordinate System: NAD 1983 UTM Zone 12N
2. Orthoimagery © Google Earth 2015

N

0 1,000 Feet

1:12,000 (at original document size of 8.5x11)

Stantec

AMERICAN GILSONITE COMPANY

Project Location
Uintah County, Utah

205303062
Prepared by DLB on 2016-01-27
Technical Review by DRF on 2016-01-28
Independent Review by MA on 2016-01-28

Client/Project
American Gilsonite Corporation
Utah Division of Oil, Gas and Mining
Application for Permit to Drill

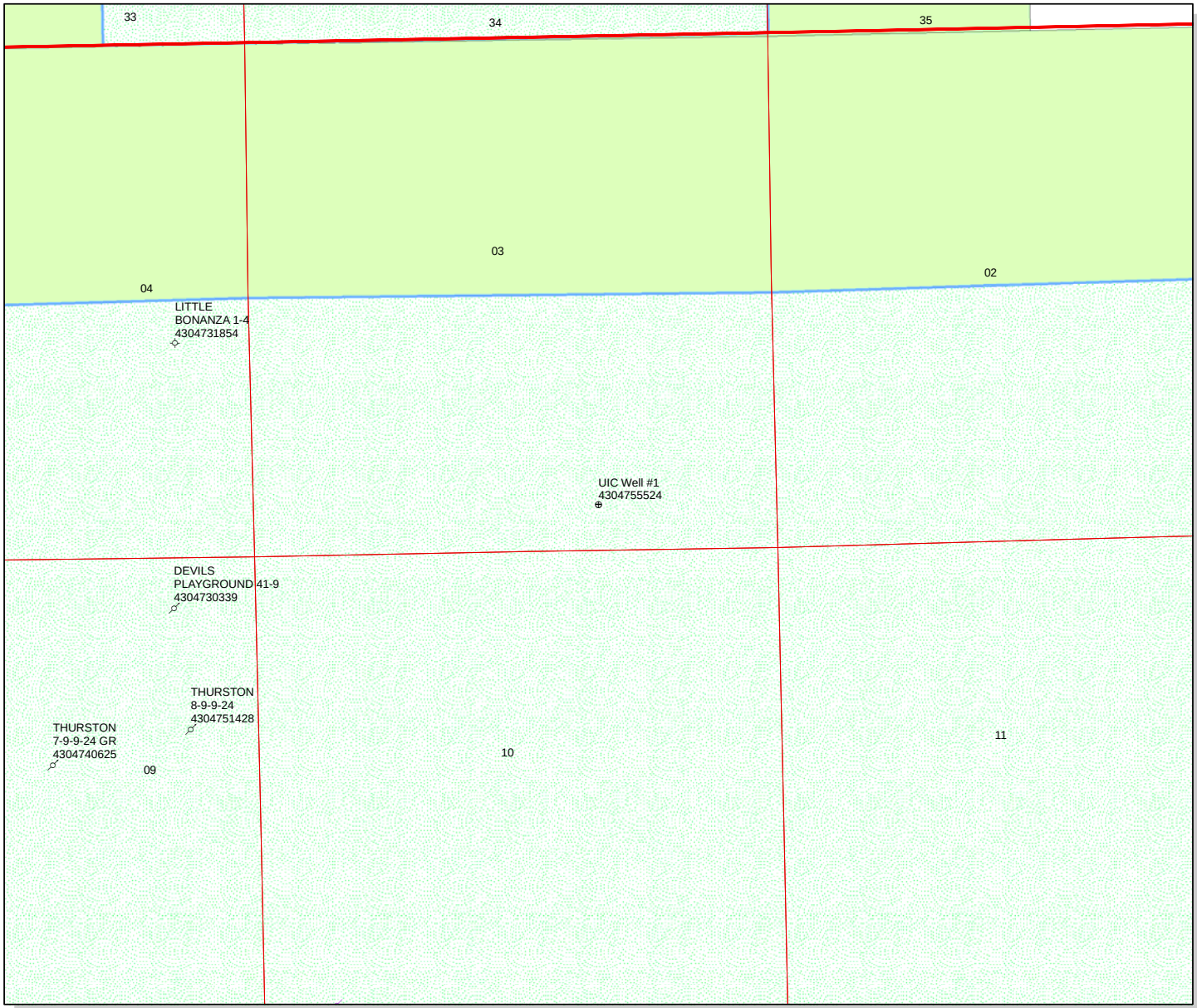
Figure No.
8

Title
American Gilsonite Corporation
Surface Impacts

V:\2053\Active\205303062\GIS\mxd\APD_App_Well1\AGC_Surface_Impacts.mxd Revised: 2016-01-27 By: dbeck

RECEIVED: February 19, 2016

API Well Number: 43047555240000



API Number: 4304755524

Well Name: UIC Well #1

Township: T09.0S Range: R24.0E Section: 03 Meridian: S

Operator: AMERICAN GILSONITE CO

Map Prepared: 2/25/2016
Map Produced by Diana Mason

Wells Query

Status

- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

Units

STATUS

- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS

- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED

N

1,250 625 0 1,250 Feet

1:12,470

RECEIVED: February 25, 2016

API Well Number: 43047555240000

BOPE REVIEW AMERICAN GILSONITE CO UIC Well #1 43047555240000

Well Name	AMERICAN GILSONITE CO UIC Well #1 43047555240000			
String	COND	I1	OPEN	
Casing Size(")	14.000	9.625	0.000	
Setting Depth (TVD)	80	1450	1570	
Previous Shoe Setting Depth (TVD)	0	80	1450	
Max Mud Weight (ppg)	8.8	8.8	8.8	
BOPE Proposed (psi)	0	0	0	
Casing Internal Yield (psi)	1875	3627	0	
Operators Max Anticipated Pressure (psi)	100		1.2	

Calculations	COND String	14.000	"	
Max BHP (psi)	.052*Setting Depth*MW=	37		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	27	NO	None proposed
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	19	NO	
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	19	NO	
Required Casing/BOPE Test Pressure=		0	psi	
***Max Pressure Allowed @ Previous Casing Shoe=**		0	psi	*Assumes 1psi/ft frac gradient

Calculations	I1 String	9.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	664		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	490	NO	None proposed
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	345	NO	
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	363	NO	
Required Casing/BOPE Test Pressure=		0	psi	
***Max Pressure Allowed @ Previous Casing Shoe=**		80	psi	*Assumes 1psi/ft frac gradient

Calculations	OPEN String	0.000	"	
Max BHP (psi)	.052*Setting Depth*MW=	718		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	530	NO	None proposed
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	373	NO	No expected pressure
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	692	YES	
Required Casing/BOPE Test Pressure=		0	psi	
***Max Pressure Allowed @ Previous Casing Shoe=**		1450	psi	*Assumes 1psi/ft frac gradient

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			***Can Full Expected Pressure Be Held At Previous Shoe?**	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	
***Max Pressure Allowed @ Previous Casing Shoe=**			psi	*Assumes 1psi/ft frac gradient

RECEIVED: April 19, 2016

AMERICAN GILSONITE CO
UIC Well #1
43047555240000

		Formation	Depth (MD)
14	" Casing	UINTA	0
80	' MD		
80	' TVD		
Surface	' TOC		
80	' Tail		
0.8	% Washout		
20	" Hole		
9.625	" Casing		
1450	' MD		
1450	' TVD		
11	' TOC		
1450	' Tail		
0	% Washout		
12.25	" Hole		
OH	" Liner		
1570	' MD	GRNRVR	1410
1570	' TVD	BRDSNST	1446
#VALUE!	' TOC		
#VALUE!	' Tail		
15	% Washout		
8.75	" Hole		

TOL	
1450	' MD
1450	' TVD

Federal 14-10 WDW 1.1 mi SW, 2390-2530, GRRV

RECEIVED: April 19, 2016

AMERICAN GILSONITE CO
UIC Well #1
43047555240000

				1.125			1		1.8			
	MASP	Collapse Strength (psi)	Collapse Load (psi)	Collapse DF	Burst Strength (psi)	Burst Load (psi)	Burst DF	Tension Strength (kips)	Tension DF	Neutral Point (ft)	Tension Air (kips)	Tension Buoyed (kips)
14 " Casing	27	1375	37	37.60	1875	80	23.44	561	147.13	69	4.4	3.8
	MW (ppg)	Internal Grad. (psi)	Backup Mud (ppg)	Internal Mud (ppg)	Max Shoe Pressure (psi)*	CSG Wt (lbs/ft)	CSG Grade	CSG Collar	Cement Lead (sx)	Lead Yield	Cement Tail (sx)	Tail Yield
	8.8	0.12			361	55.0	B	PE	78	1.18		
	MASP	Collapse Strength (psi)	Collapse Load (psi)	Collapse DF	Burst Strength (psi)	Burst Load (psi)	Burst DF	Tension Strength (kips)	Tension DF	Neutral Point (ft)	Tension Air (kips)	Tension Buoyed (kips)
9.625 " Casing	344	10847	663	16.36	3627	691	5.25	501	8.14	1255	71.1	61.5
	MW (ppg)	Internal Grad. (psi)	Backup Mud (ppg)	Internal Mud (ppg)	Max Shoe Pressure (psi)*	CSG Wt (lbs/ft)	CSG Grade	CSG Collar	Cement Lead (sx)	Lead Yield	Cement Tail (sx)	Tail Yield
	8.8	0.22			691	49.0	B	PE	390	1.18		
	MASP	Collapse Strength (psi)	Collapse Load (psi)	Collapse DF	Burst Strength (psi)	Burst Load (psi)	Burst DF	Tension Strength (kips)	Tension DF	Neutral Point (ft)	Tension Air (kips)	Tension Buoyed (kips)
OH " Liner	372	#VALUE!	718	#VALUE!	#VALUE!	718	#VALUE!	#VALUE!	#VALUE!	1554	0.0	#VALUE!
	MW (ppg)	Internal Grad. (psi)	Backup Mud (ppg)	Internal Mud (ppg)	Max Shoe Pressure (psi)*	CSG Wt (lbs/ft)	CSG Grade	CSG Collar	Cement Lead (sx)	Lead Yield	Cement Tail (sx)	Tail Yield
	8.8	0.22			1450							

RECEIVED: April 19, 2016

ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator AMERICAN GILSONITE CO
Well Name UIC Well #1
API Number 43047555240000 **APD No** 11461 **Field/Unit** DEVILS PLAYGROUND
Location: 1/4,1/4 SWSE **Sec** 3 **Tw** 9.0S **Rng** 24.0E 475 FSL 1785 FEL
GPS Coord (UTM) **Surface Owner** American Gilsonite Company

Participants

Richard Powell (UDOGM), Nick Lott (AGC general manager), Clark Slaugh (AGC), David Friz (Stantec). Mr. Friz was on "face time video conferencing from SLC.

Regional/Local Setting & Topography

This well location is just off the west side of State Hwy 45 approximately 3 miles north of Bonanza, Utah. The location sits on the north slope of a hill between drainages in a stable location with no interference with drainage. Below the location there is a wash running north along the Hwy. This drainage is not affected by the location. The land here is made up of scattered hills and dry washes drained through Coyote wash and on to the White River.

Surface Use Plan

Current Surface Use
Mining

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	**Width** 400 **Length** 400	Offsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate? Y

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Pronghorn habitat, with coyote, rodent, rabbit and various birds.
Dominant plant species is greasewood and sage brush with rabbit brush, shadscale and cheat grass.

Soil Type and Characteristics

Sandy loam dry soil

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Drainage Diverson Required? N

RECEIVED: April 19, 2016

Berm Required? Y

AGC plans to berm this location to federal mining safety standards

Erosion Sedimentation Control Required? N

Paleo Survey Run? N **Paleo Potental Observed?** N **Cultural Survey Run?** N **Cultural Resources?** N

Reserve Pit

Site-Specific Factors		Site Ranking	
Distance to Groundwater (feet)	>200	0	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	High permeability	20	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)		0	
Affected Populations			
Presence Nearby Utility Conduits	Unknown	10	
	Final Score	55	1 Sensitivity Level

Characteristics / Requirements

A shallow reserve pit has already been constructed and lined. The pit is in a stable location with about half the voume in cut below original grade. The liner is 30 mil.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 16 **Pit Underlayment Required?** N

Other Observations / Comments

Richard Powell	3/23/2016
Evaluator	**Date / Time**

RECEIVED: April 19, 2016

Application for Permit to Drill
Statement of Basis
Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
11461	43047555240000	LOCKED	WI	P	No

Operator	AMERICAN GILSONITE CO	**Surface Owner-APD**	American Gilsonite Company
Well Name	UIC Well #1	**Unit**	
Field	DEVILS PLAYGROUND	**Type of Work**	DRILL
Location	SWSE 3 9S 24E S 475 FSL 1785 FEL GPS Coord (UTM) 653755E 4435844N		

Geologic Statement of Basis

American Gilsonite proposes to set 1,450’ of casing at this location. Total depth is estimated to be 1,570 feet. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,500'. EPA will re-evaluate the base of the moderately saline ground water as a part of their UIC application review process. A search of Division of Water Rights records shows 3 water wells within a 10,000 foot radius of the center of Section 3. The wells are listed as 26, 100 and 900 feet deep and used for domestic, stockwater and mining water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect any usable ground water.

Brad Hill
APD Evaluator

3/24/2016
Date / Time

Surface Statement of Basis

This proposed well is on fee surface with fee minerals. The surface owner, American Gilsonite Co., is drilling this well to accommodate the injection of water from nearby mine operations. Underground water fills the mine shafts and must be removed for mining operation to proceed. Historically this water has been pumped to surface where it has primarily flowed down coyote wash which drains to the White River. American Gilsonite is being encouraged by the EPA to move to injection of this water. The well is on American Gilsonite Co. (AGC) property and is built in a stable location between drainages on the northeast slope of a moderately sloped hill along the west side of the Hwy 45 corridor approximately 3 miles north of Bonanza, UT. The location of this proposed well has already been constructed, the reserve pit built and lined, and 2-400 bbl upright tanks placed. . The reserve pit has a 30 mil liner and has been constructed such that the pit volume is mostly in cut. The location has been sized to accommodate an eventual total of three injection wells, although only this well is to be drilled at this time. Top soil has been removed and placed securely on the south side of the location between the location and the reserve pit. AGC plans to build a berm of imported road base approximately 2.5 ft high around the entire location. This appears to be a good site for the placement of this well.

Richard Powell
Onsite Evaluator

3/23/2016
Date / Time

RECEIVED: April 19, 2016

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 16 mils shall be properly installed and maintained in the reserve pit.
Surface	The well site shall be bermed to prevent fluids from entering or leaving the pad.
Surface	Measures (BMP's) shall be taken to protect steep slopes and topsoil pile from erosion, sedimentation and stability issues.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

RECEIVED: April 19, 2016

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 2/19/2016
API NO. ASSIGNED: 43047555240000
WELL NAME: UIC Well #1
OPERATOR: AMERICAN GILSONITE CO (N1690)
PHONE NUMBER: 801 261-0090
CONTACT: David R. Friz

PROPOSED LOCATION: SWSE 03 090S 240E
Permit Tech Review: ✔

SURFACE: 0475 FSL 1785 FEL
Engineering Review: ✔

BOTTOM: 0475 FSL 1785 FEL
Geology Review: ✔

COUNTY: UINTAH
LATITUDE: 40.05883
LONGITUDE: -109.19724
UTM SURF EASTINGS: 653755.00
NORTHINGS: 4435844.00
FIELD NAME: DEVILS PLAYGROUND
LEASE TYPE: 4 - Fee
LEASE NUMBER: FEE
PROPOSED PRODUCING FORMATION(S): GREEN RIVER
SURFACE OWNER: 4 - Fee
COALBED METHANE: NO

RECEIVED AND/OR REVIEWED:

- ✔ **PLAT**
- ✔ **Bond:** STATE/FEE - LC SBPUT300608
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** 49-222
- ☐ **RDCC Review:**
- ✔ **Fee Surface Agreement**
- ☐ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit:

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

Board Cause No: R649-3-2
Effective Date:
Siting:

- ☐ **R649-3-11. Directional Drill**

Comments: Presite Completed
This well is being drilled as an injection well to dispose of water from Gilsonite Mining. EPA will review and issue the UIC permit. Oil and gas spacing rules do not apply.

Stipulations: 5 - Statement of Basis - bhill
8 - Cement to Surface -- 2 strings - daynedoucet

RECEIVED: April 19, 2016

GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: UIC Well #1
API Well Number: 43047555240000
Lease Number: FEE
Surface Owner: FEE (PRIVATE)
Approval Date: 4/19/2016

Issued to:
AMERICAN GILSONITE CO, 29950 South Bonanza Highway, Bonanza, UT 84008

Authority:
Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of R649-3-2. The expected producing formation or pool is the GREEN RIVER Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Cement volumes for the 14 inch and 9.625 inch casing strings shall be determined from actual hole diameters in order to place cement from the pipe setting depths back to the surface.

Additional Approvals:
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet
- Plug and abandonment of the well - contact Dustin Doucet

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Alexis Huefner OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website
  at http://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program
  - contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

Contact Information:
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Alexis Huefner 801-538-5302 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-231-8956 - after office hours

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

Approved By:

For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: FEE

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Water Injection Well

8. WELL NAME and NUMBER:
UIC Well #1

2. NAME OF OPERATOR:
AMERICAN GILSONITE CO

9. API NUMBER:
43047555240000

3. ADDRESS OF OPERATOR:
29950 South Bonanza Highway , Bonanza, UT, 84008

PHONE NUMBER:
435 790-1930 Ext

9. FIELD and POOL or WILDCAT:
DEVILS PLAYGROUND

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0475 FSL 1785 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SWSE Section: 03 Township: 09.0S Range: 24.0E Meridian: S

COUNTY:
UINTAH

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 8/23/2016	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

We also want to eliminate the use of a BOP during drilling. We are using a sleeve over the surface with a 8o foot diverter line to keep anything from blowing on the rig floor.

Approved by the Utah Division of Oil, Gas and Mining
August 25, 2016
Date:
By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Michael Wilhite	435-781-4541	HES Manager

SIGNATURE	DATE
N/A	8/23/2016

RECEIVED: Aug. 23, 2016

PROPETRO

American Gilsonite

Atten: Ed Gudac

9 5/8 Casing

TD	1785 ft
Hole Size	12 ¼ in
Casing Size	9 5/8 in
Casing Weight	36 #/ft
Tail Cement Coverage	1785 ft to 785 ft
Tail Cement Excess	50 %
Lead Cement Coverage	785 ft to surface
Lead Cement Excess	50 %

Prem G Tail Cmt	**410 sks**	**15.8 #/gal**	**1.15 cuft/sks**	**5.0 gal/sk**
Premium G Cmt	100 %			
Calcium Chloride	2 %			
Flocele	¼ #/sk			

Prem Hifill Lead Cmt	**130 sks**	**12.0 #/gal**	**2.86 cuft/sk**	**16.83 gal/sk**
Premium Type V Cmt	100 %			
Gel	16 %			
Gilsonite	10 #/sk			
GR 3	2 #/sk			
Salt	3 % (BWOC)			

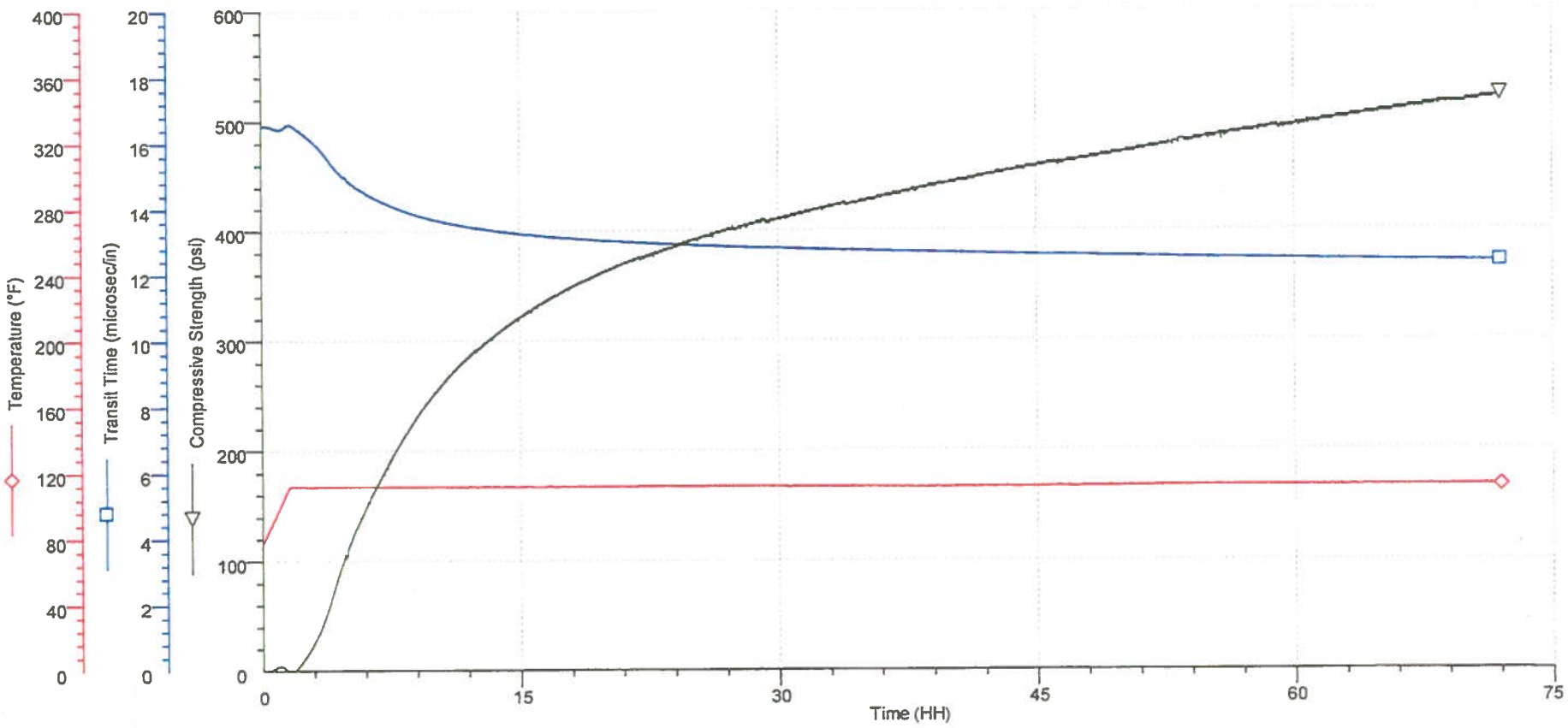
Sundry Number: 73898 API Well Number: 43047555240000

Well ID:
Class: Type V
Cement Manufacture:

Slurry: 16% gel, 10 pps Kolseal, 3% NaCl bw oc
Density: 12.0 ppg

Customer: ProPetro Services
Strength: 521 psi
Algorithm: Compressive strength type A (less than 14 lb/gal)

BHST: 110° F
50 psi @ 3:39:30
500 psi @ 61:52:00



CESI CHEMICAL
a Flotek company

Test File Name: FS-0128-0612 ProPetro Services CS 16% gel, 10 pps Kolseal, 3.0% NaCl bw oc @ 12.0 ppg
Printed: 7/19/2012 12:02:20 PM

Sundry Number: 73898 API Well Number: 43047555240000