Stantec Consulting Services Inc.
11153 Aurora Avenue
Des Moines, Iowa 50322
Phone: (515) 253-0830
Fax: (515) 253-9592

October 5, 2017

Mr. Randy Bayliss, PE – Hydrologist, District III
New Mexico Oil Conservation Division
Energy, Minerals, and Natural Resources Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: 2017 Monitoring Well Installation Work Plan – James F. Bell #1E
El Paso CGP Company – Pit Groundwater Remediation Sites
NMOCD Order Number: 3RP-196-0

Dear Mr. Bayliss:

Stantec Consulting Services Inc. (Stantec), on behalf of El Paso CGP Company, LLC (EPCGP), is submitting the enclosed 2017 Monitoring Well Installation Work Plan (Work Plan) for the James F. Bell #1E Site (Site), pursuant to the New Mexico Oil Conservation Division (NMOCD) letter dated June 2, 2017, requiring additional delineation of free product and dissolved-phase hydrocarbons at the Site. The enclosed document contains the proposed methodology for assessment of subsurface soil conditions and subsequent groundwater monitoring well installations at the Site. The procedures outlined in this Work Plan meet or exceed the requirements established in EPCGP's "Remediation Plan for Groundwater Encountered during Pit Closure Activities" document approved by the New Mexico Oil Conservation Division (NMOCD) on November 30, 1995. The scope of work contained herein is scheduled to begin the week of October 16, 2017.

Please contact Mr. Joseph Wiley of EPCGP at (713) 420-3475, or me if you have any questions or comments concerning the enclosed Work Plan.

Sincerely,

Stantec Consulting Services Inc.

Stephen Varsa
Project Manager
Phone: (515) 251-1020
steve.varsa@stantec.com

/rsm:srv:leh

cc: Joseph Wiley, EPCGP (via electronic mail)
Cory Smith, Vanessa Fields, NMOCD District 3 – Aztec Office
Jillian Aragon, Bureau of Land Management, Farmington Office

El Paso CGP Company, LLC
1001 Louisiana
Houston, Texas 77002

JAMES F. BELL #1E SITE
NMOCD Order Number: 3RP-196-0
2017 MONITORING WELL INSTALLATION WORK PLAN
SAN JUAN COUNTY, NEW MEXICO

October 2017

Prepared by:

Stantec Consulting Service, Inc.
11153 Aurora Avenue
Des Moines, Iowa 50322
(515) 253-0830

TABLE OF CONTENTS

LIST OF FIGURES

SECTION 1 INTRODUCTION

This Monitoring Well Installation Work Plan (Work Plan) presents the scope of work to be completed to perform monitoring well installations at the James F. Bell #1E remediation site (Site) located in the San Juan River Basin near Farmington, New Mexico. There are currently twelve EPCGP monitoring wells (MW-1 through MW-12) at the Site, three of which (MW-1, MW-8 and MW-10) have contained measureable free product. Six additional monitoring wells (MW-13 through MW-18) will be installed at the Site to better define the extent of free product and dissolved-phase hydrocarbons around the Site.

The purpose of this Work Plan is to provide the field methods and an implementation schedule for the monitoring well installation activities. Section 2 describes the Site and the purpose behind the proposed well locations. Section 3 provides details on the field methods to be used. Section 4 presents the anticipated implementation schedule.

SECTION 2 SCOPE OF WORK

The new monitoring wells are intended to provide further delineation of groundwater impacts at the Site in an effort to move the Site toward closure. Details of the proposed monitoring wells are provided below.

There are currently twelve monitoring wells (MW-1 through MW-12) at the Site. Six additional monitoring wells (MW-13 through MW-18), will be installed at the Site and are intended not only for the collection of groundwater samples, but will also further assess soil concentrations at the Site. The monitoring wells will be installed around the known or estimated extent of the groundwater plume, in order to better delineate impacts from the former El Paso CGP Company, LLC (EPCGP) pit.

Two former unlined pits (former Blow Pit and former Separator Pit), operated by Amoco (now BP), and associated with the James F. Bell #1E operations, were located east of the former EPCGP pit. Based on information provided in Pit Remediation and Closure Reports (Reports) contained in the New Mexico Oil Conservation Division's (NMOCD) American Petroleum Institute (API) file 30-045-25613 for the Site, elevated hydrocarbon concentrations were noted in confirmation soil samples collected during Amoco's closure activities at both pits. As noted in annual Site reports submitted by EPCGP, depth to groundwater at the Site has been documented to range from approximately 20 to 30 feet below ground surface (bgs), as opposed to the greater than 100 feet estimate in the Amoco Reports. Documentation of further activities or regulatory closure of the Amoco pits was not found in online NMOCD files. Due to its proximity, the presence of elevated hydrocarbons detected at the Separator Pit location may complicate efforts in completing hydrocarbon delineation in this direction from the former EPCGP pit.

The existing and proposed monitoring well locations, former pit locations, and other pertinent features are depicted in Figure 1.

SECTION 3 FIELD METHODS

The following subsections describe field procedures to be followed during the Site activities.

3.1 SOIL BORING

A truck-mounted, hollow-stem auger drill rig will be mobilized to the Site after underground utility and line locates have been completed. The drill rig will be used to advance soil borings to an anticipated depth of 50 feet bgs, or until auger refusal is encountered. When auger refusal is encountered, expected at a depth of 10 feet or less, the drill rig will convert to air rotary methods to advance to the planned depth. Due to their proximity to existing or historical operations at the Site, rock coring tooling will first be used for continuous sampling to the targeted depths at the MW-15, MW-16, and MW-17 locations.

Prior to advancing each monitoring well location, soft digging utilizing vacuum excavation or similar methods will be utilized to a depth of at least eight feet bgs to confirm no unmarked subsurface utilities or other obstructions are present. A ground penetrating radar survey will also be completed prior to drilling activities to identify and/or confirm the locations of subsurface pipes or other obstructions. Once vacuum excavation activities have been completed, soil sampling and screening will be conducted from the soft-digging termination depth to the base of the borehole using hollow-stem auger and/or continuous-core sampling methods, where applied. Borehole logging will include Unified Soil Classification System (USCS) soil descriptions. In addition to the USCS descriptions, the field geologist will provide a detailed description of each discrete lithologic unit. Other than lithologic descriptions, additional soil characterization or sampling will not be conducted on intervals advanced via air rotary.

Soil samples will be collected at 1 foot intervals, where recovery is possible, for field screening and potential laboratory analysis. After the sample core is collected, the field personnel will field screen using a pre-calibrated photoionization detector (PID) and record the readings. The field screening will be conducted by notching the soil in the core with a hand trowel or other pre-cleaned hand tool, and briefly placing the PID in the notch to measure impacts. The screening, in addition to visual and olfactory observations (e.g., observing apparent hydrocarbon staining), will aid in identifying the portion of the sample interval to retain for potential laboratory analysis (i.e., the portion with the greatest suspected hydrocarbon impact).

Based on the field screening, a soil sample will be collected from the core representing the greatest suspected hydrocarbon impact. No soil samples will be collected of bedrock or from below the field-apparent water table. If the current core section being screened does not appear to be impacted to a level equal to or greater than a preceding core section, one soil sample will be collected immediately above the field-interpreted and/or gauged water table for laboratory analysis. The sample(s) retained for potential laboratory analysis will be placed in a laboratory-provided 4-ounce glass jar(s), sealed, labeled, and stored on ice. After the boring and soil screening are completed, the collected sample associated with the highest PID reading will be retained and shipped in an ice-filled cooler under standard

chain-of-custody to TestAmerica Laboratories, Inc. in Pensacola, Florida. Samples not retained for analysis will be disposed of with the soil cuttings.

Soil samples will be analyzed per the guidance established by Attachment A to Order No. R-13506-D, New Mexico Administrative Code (NMAC) Section 19.15.17.13, Table 1, for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method SW846 8021B; gasoline-range organics, diesel-range organics, and oil-range organics by EPA Method 8015 M, and chlorides by EPA Method 300.

3.2 MONITORING WELL INSTALLATION

Each monitoring well will be constructed of 2-inch-diameter, Schedule 40, 0.010-slot polyvinyl chloride (PVC) screen and 2-inch-diameter, Schedule 40 PVC riser casing. For each well, a locking, protective steel well vault will be installed from 3 feet above ground surface to 2 feet bgs within a concrete pad on the ground surface. Four concrete-filled steel bollards will be placed around the concrete pad to protect the well vault.

A 25-foot well screen will be installed in each well at the depths estimated in Figure 1, which is anticipated to intersect the groundwater surface and provide sufficient water column for sample collection. The riser casing will extend from the top of the screen to approximately 2.5 feet above the ground surface. The annular space adjacent to the well screen will be filled with 10-20 silica sand from the bottom of the borehole to 2 feet above the top of the screen. Three (3) feet of hydrated bentonite chips will be placed above the silica sand to prevent downward migration of surface water. Bentonite grout will be placed above the bentonite chips to 6 inches below the bottom of the well vault. Silica sand will be placed from 6 inches below the bottom of the well vault (approximately 2.5 feet bgs) to within approximately 1 foot of the ground surface, or to a field-determined depth based on concrete pad placement.

Monitoring well development will be performed using a surge block and down-hole pump until sediment has been removed and visibly clear water is observed or the well runs dry. Upon completion of development, each newly-installed monitoring well will be fitted with a Hydrasleeve™ no-purge groundwater sampling device to facilitate future groundwater sampling. Development and decontamination water and soil cuttings will be stored in labeled 55-gallon drums and staged on site.

After construction, ground surfaces and top-of-casing elevations will be surveyed by a licensed surveyor using State plane coordinates and the existing site benchmark.

3.3 GENERAL PROTOCOLS

This subsection presents a discussion of health and safety, documentation procedures, buried piping or utility identification, waste handling, and other procedures to be performed as part of the investigation.

3.3.1 Health and Safety

A Site-Specific Health and Safety Plan (HASP) will be prepared for groundwater monitoring, operations, maintenance, and drilling activities. The HASP includes guidance on the personal protective equipment (PPE) necessary for field activities, identified hazards associated with the field activities, and directions to the nearest medical facility. Flame-resistant clothing and Level D protective equipment will be worn, as required. A copy of the HASP will be on site at all times while work is being performed. The HASP will apply to Stantec employees and visitors at the Site. Typically, subcontractors will operate under their own HASP, which will be reviewed and referenced by Stantec prior to the start of the project.

3.3.2 Documentation Procedures

Data generated during the field investigation will be recorded on boring and well construction logs. The boring logs will include USCS descriptions, detailed lithologic descriptions, PID readings, length/percent recovery, sample collection intervals, and drilling method employed. The well construction logs will include screen, sand pack, wellbore seal, and surface completion details.

The field geologist will maintain a field log book. At the end of each day of field activities, the notes will be dated and signed by the field geologist.

The daily field log book will contain information such as:

- Date
- Name, location, and objective of the work activities
- Weather conditions
- Equipment calibration information
- Personnel and visitors on site
- Photograph numbers and descriptions (if applicable)
- Description of decontamination activities (if applicable)
- Any deviations from the Work Plan
- Other relevant observations as the fieldwork progresses
- Sample collection intervals and times
- Problems and corrective actions

3.3.3 Boring Locations and Utility Identification

Prior to any drilling or excavation, a call will be made to the New Mexico 811 “One Call” to verify utility clearance and to notify the operator. “One Call” will be notified that the boring locations are staked or flagged and that the entire well pad and areas surrounding the borings should be marked. The clearance call must be made at least two working days prior to drilling, and site work must be completed within five days of the clearance. In addition, access will be coordinated with the current operator of the Site prior to any drilling activities to allow location of any underground infrastructure and to comply with operator safety guidance.

3.3.4 Equipment Decontamination

Prior to drilling, down-hole equipment will be steam cleaned or scrubbed with a non-phosphate detergent (e.g., Alconox®). Where feasible, equipment to be decontaminated will be disassembled to permit adequate cleaning of the internal portions of the equipment. Equipment to be steam cleaned will be placed into a self-contained decontamination trailer with metal cleaning racks that support the equipment for cleaning, rinsing, and air drying. Heavy waterproof gloves will be worn during steam cleaning to protect against skin contact with steam and potential contaminants and to reduce the potential for cross-contamination between samples.

3.3.5 Investigation-Derived Waste

Soil cuttings generated from drilling activities will be containerized in labeled 55-gallon drums and staged on site for removal by a contracted transport and disposal company.

Decontamination and purge water generated through the development of new monitoring wells will be containerized in labeled 55-gallon drums and staged on site for removal with the soil cuttings.

Other investigation-derived wastes (i.e., excess well materials, bags, buckets, gloves) will be removed from the Site by the waste hauler for disposal as general construction/demolition debris.

Disposable equipment and PPE waste generated during field activities, including scrap PVC, rope, disposable bailers, nitrile gloves, and Tyvek® suits, will be disposed in standard industrial dumpsters. In the event the waste is grossly contaminated, it will be containerized for proper disposal along with the other investigation-derived waste.

3.3.6 Field Equipment Calibration Procedures

With regard to organic vapor meters, field personnel will use a 10.6 electron volt (eV) PID for screening soil samples during advancement of soil borings. This instrument will be calibrated prior to use according to the manufacturer's specifications. The instrument calibration will be checked at the beginning of each day of use and any time meter drift is suspected. All calibration information will be recorded in the field log book.

SECTION 4 SCHEDULE

It is anticipated that monitoring well installation activities will commence the week of October 16, 2017. Utility locates must be verified prior to the work. Soil and groundwater analytical results and recommendations from the field activities will be provided in the 2017 Annual Report, anticipated to be submitted by March 2018.

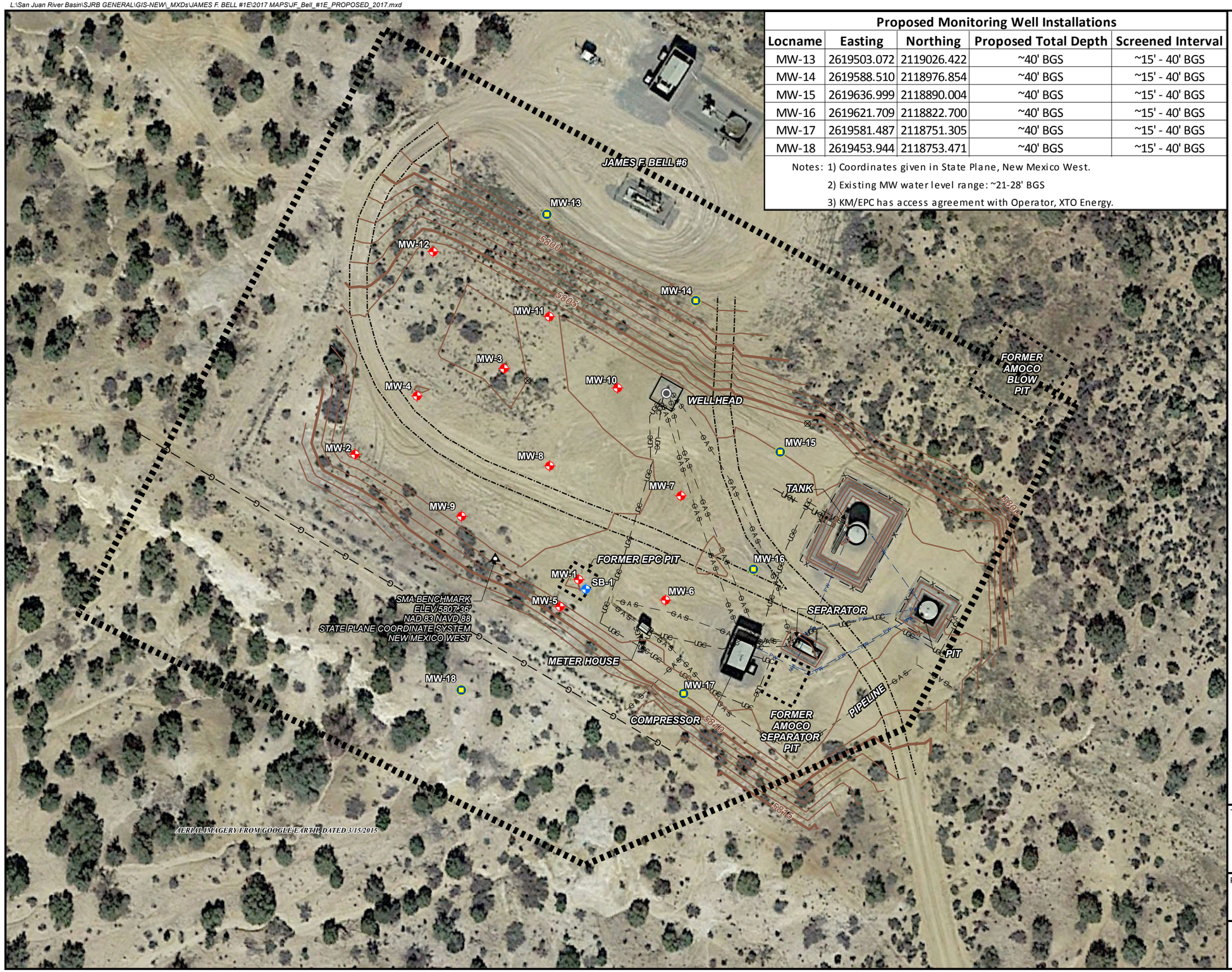
The new monitoring wells will be prepared for groundwater sample collection. Assuming free-phase petroleum hydrocarbons are not encountered; following development, HydraSleeve™ no-purge groundwater samplers and tethers will be placed in the new wells. The new wells will be sampled during the next semiannual gauging event following monitoring well installation, anticipated to occur in November 2017.

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\JAMES F. BELL #1E\2017 MAPS\JF_Bell_#1E_PROPOSED_2017.mxd

Proposed Monitoring Well Installations

Locname	Easting	Northing	Proposed Total Depth	Screened Interval
MW-13	2619503.072	2119026.422	~40' BGS	~15' - 40' BGS
MW-14	2619588.510	2118976.854	~40' BGS	~15' - 40' BGS
MW-15	2619636.999	2118890.004	~40' BGS	~15' - 40' BGS
MW-16	2619621.709	2118822.700	~40' BGS	~15' - 40' BGS
MW-17	2619581.487	2118751.305	~40' BGS	~15' - 40' BGS
MW-18	2619453.944	2118753.471	~40' BGS	~15' - 40' BGS

Notes: 1) Coordinates given in State Plane, New Mexico West.
2) Existing MW water level range: ~21-28' BGS
3) KM/EPC has access agreement with Operator, XTO Energy.



LEGEND:

- APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FENCE
- NATURAL GAS LINE
- PRODUCED WATER LINE
- UNDERGROUND CABLE
- UNKNOWN BURIED LINE
- MONITORING WELL
- SOIL BORING
- PROPOSED GROUNDWATER MONITORING WELL LOCATIONS
- WELLHEAD
- RIG ANCHOR
- SMA BENCHMARK

N

SCALE IN FEET
0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	9/27/2017	SLG	SLG	SRV

TITLE:
PROPOSED GROUNDWATER MONITORING WELL LOCATIONS

PROJECT:
JAMES F. BELL #1E
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 1